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OF THE

FIFTY-SECOND SESSION

OF THE

AMERICAN INSTITUTE OF HOMŒOPATHY,

HELD AT DETROIT, MICH., JUNE 17, 1896.

Instituted April 10, 1844.

EDITED BY

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1896.

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At the Annual Session of 1881, the American Institute of Homœopathy ordered as follows:

1. That the President's definition of the words "Regular" and "Irregular," as applied to schools and practitioners of medicine, be adopted by this Institute as correct.

2. That hereafter this definition be conspicuously printed in all published documents and TRANSACTIONS of this Institute, in order that the profession, of all schools, may the sooner be familiarized with, and led to adopt it.

"A REGULAR PHYSICIAN.—A graduate of a regularly incorporated medical college. The term also applies to a person practicing the healing art in accordance with the laws of the country in which he resides."

See *Transactions* of 1881, pp. 23, 68 and 71.

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PREFATORY NOTE.

In the volume of TRANSACTIONS for 1895 certain changes in the interest of economy were made without, however, interfering with either the durability or usefulness of the book. In this volume these changes have been made permanent features, while still other departures from custom may be found. The report of the General Sessions of the Institute has been greatly condensed, the statistical tables have been abbreviated and put in ordinary type, the appendix has been put in uniform dress, and every effort has been made to save space and money.

But the centennial addresses, the long report of the Materia Medica Conference and the great number of papers presented in the sections have rendered vain the efforts towards economy.

In spite of the utmost condensation in every way, the volume for 1896 contains nearly a hundred pages more than its predecessor. There must be some way found to keep the TRANSACTIONS within due bounds. If the various sections would offer fewer papers for publication it would be a marked advance. Some papers have been omitted by the Committee on Publication and some like the statistical papers of Dr. Peck and Dr. Strickler arrived too late for insertion.

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HENRY CHANDLEE, M.D.,	Southern Hom. Med. Coll., Baltimore.
C. B. CURRIER, M.D.,	Hahn. Hosp. Coll., San Francisco.
WM. C. RICHARDSON, M.D.,	Hom. Med. Coll. of St. Louis.
H. C. ALLEN, M.D.,	Hering Med. Coll., Chicago.
M. EDGERTON, M.D.,	Kansas City Hom. Med. Coll.
W. H. DICKINSON, M.D.,	Hom. Dept. Univ. Des Moines.
D. A. MACLACHLAN, M.D.,	Hom. Dept. Univ. Mich., Detroit.
W. E. LEONARD, M.D.,	Hom. Dept. Univ. Minn.
P. J. B. WAITE, M.D.,	N. Y. Med. Coll. for Women.
J. C. SANDERS, M.D.,	Cleveland Univ. of Med. and Surg.
G. J. JONES, M.D.,	Cleveland Med. Coll.

SECTIONS.

Materia Medica.

MARTIN DESCHERE, M.D., Chairman, 334 W. 58th Street,	New York, N. Y.
W. A. DEWEY, M.D., Secretary,	Ann Arbor, Mich.
GEORGE ROYAL, M.D.,	Des Moines, Ia.
A. L. MONROE, M.D.,	Louisville, Ky.
H. C. ALLEN, M.D.,	Chicago, Ill.
H. W. PIERSON, M.D.,	Chicago, Ill.
W. J. HAWKES, M.D.,	Chicago, Ill.
B. G. CLARKE, M.D.,	New York, N. Y.
T. F. ALLEN, M.D.,	New York, N. Y.
E. C. PRICE, M.D.,	Baltimore, Md.
HARVEY DALE, M.D.,	Oshkosh, Wis.
M. J. CHAPMAN, M.D.,	Pittsburg, Pa.
WM. BOERICKE, M.D.,	San Francisco, Cal.
A. C. COWPERTHWAITE, M.D.,	Chicago, Ill.

Clinical Medicine and Pathology.

W. H. HANCHETT, M.D., Chairman.	Omaha, Neb.
C. S. MIDDLETON, M.D.,	Philadelphia, Pa.
HENRY E. SPALDING, M.D.,	Boston, Mass.

A. M. Linn, M.D., ... Des Moines, Ia.
Richard Kingsman, M.D., ... Washington, D. C.
Wm. A. Geohegan, M.D., ... Cincinnati, O.
C. R. Mayer, M.D., ... New Orleans, La.
Julia Holmes Smith, M.D., ... Chicago, Ill.
C. R. Hunt, M.D., ... New Bedford, Mass.
J. S. Mitchell, M.D., ... Chicago, Ill.
A. K. Crawford, M.D., ... Chicago, Ill.
Sarah A. Smith, M.D., ... Council Bluffs, Ia.
Jas. M. Walker, M.D., ... Denver, Colo.
J. C. Hanchett, M.D., ... Salt Lake City, Utah.
W. W. Van Baun, M.D., ... Philadelphia, Pa.
Montford J. Schley, M.D., ... New York City.
John C. Daily, M.D., ... Fort Smith, Ark.

Obstetrics.

L. C. Grosvenor, Chairman, 185 Lincoln Avenue, ... Chicago, Ill.
Waldo H. Stone, M.D., ... Providence, R. I.
Sheldon Leavitt, M.D., ... Chicago, Ill.
L. L. Danforth, M.D., ... New York, N. Y.
T. G. Comstock, M.D., ... St. Louis, Mo.
Harlan Pomeroy, M.D., ... Cleveland, O.
George B. Peck, M.D., ... Providence, R. I.
Frank S. Aby, M.D., ... Norwood Park.

Gynæcology.

James C. Wood, M.D., Chairman, 47 Windsor Avenue, . . . Cleveland, O.
J. K. Sanders, M.D., ... Cleveland, O.
J. M. Lee, M.D., ... Rochester, N. Y.
Maurice P. Hunt, M.D., ... Columbus, O.
W. E. Green, M.D., ... Little Rock, Ark.
J. H. McClelland, M.D., ... Pittsburg, Pa.
Alonzo Boothby, M.D., ... Boston, Mass.
M. Belle Brown, M.D., ... New York, N. Y.
H. E. Bebbe, M.D., ... Sidney, O.
E. S. Bailey, M.D., ... Chicago, Ill.

Pædology.

Allison A. Clokey, M.D., Chairman, 2d and Chestnut Streets, . Louisville, Ky.
Joseph P. Cobb, M.D., Secretary, ... Chicago, Ill.
A. P. Hanchett, M.D., ... Council Bluffs, Ia.
L. C. McElwee, M.D., ... St. Louis, Mo.
Wm. H. Bigler, M.D., ... Philadelphia, Pa.
Clifford Mitchell, M.D., ... Chicago, Ill.
Geo. M. Dillow, M.D., ... New York, N. Y.
P. J. B. Waite, M.D., ... New York, N. Y.
H. R. Stout, M.D., ... Jacksonville, Fla.
S. R. Geiser, M.D., ... Cincinnati, O.
C. D. Crank, M.D., ... Cincinnati, O.

Sanitary Science.

B. W. James, M.D., Chairman, cor. 18th and Green Streets, . Philadelphia, Pa.
S. J. Millsop, M.D., Secretary . . . . . Bowling Green, Ky.
A. R. Wright, M.D., ... Buffalo, N. Y.
Pemberton Dudley, M.D., ... Philadelphia, Pa.
Ella D. Goff, M.D., ... Allegheny, Pa.
Rollin H. Stevens, M.D., ... Detroit, Mich.
Robert Hale, M.D., ... Providence, R. I.
J. P. Rand, M.D., ... Worcester, Mass.
R. N. Tooker, M.D., ... Chicago, Ill.
W. L. Woodruff, M.D., ... Phœnix, Ariz.
C. B. Kinyon, M.D., ... Rock Island, Ill.
Ed. B. Hooker, M.D., ... Hartford, Conn.

Surgery.

T. L. MacDonald, M.D., Chairman, ... Washington, D. C.
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Horace Packard, M.D., ... Boston, Mass.
Wm. B. Van Lennep, M.D., ... Philadelphia, Pa.
Carl V. Vischer, M.D., ... Philadelphia, Pa.
George F. Shears, M.D., ... Chicago, Ill.
Howard R. Chislett, M.D., ... Chicago, Ill.
J. L. Hanchett, M.D. . . . . Sioux City, Ia.
Ralph Jenkins, M.D., ... Washington, D. C.
Geo. S. Coon, M.D., ... Louisville, Ky.
C. E. Fisher, M.D., ... Chicago, Ill.
James W. Ward, M.D., ... San Francisco, Cal.

Neurology.

H. V. Halbert, M.D., Chairman, 70 State Street, ... Chicago, Ill.
Clarence Bartlett, M.D., Secretary, 1506 Arch Street, . . Philadelphia, Pa.
J. T. O'Connor, M.D., ... New York, N. Y.
N. B. Delamater, M.D., ... Chicago, Ill.
Selden H. Talcott, M.D., ... Middletown, N. Y.
Geo. S. Adams, M.D., ... Westboro, Mass.
W. M. Butler, M.D., ... Brooklyn, N. Y.
N. Emmons Paine, M.D., ... West Newton, Mass.
J. Martine Kershaw, M.D., ... St. Louis, Mo.
M. B. Campbell, M.D., ... St. Barnardino, Cal.
C. T. Hood, M.D., ... Chicago, Ill.

Ophthalmology, Otology and Laryngology.

Harold Wilson, M.D., Chairman, 36 Adams Avenue, . . . Detroit, Mich.
R. S. Copeland, M.D., Secretary, ... Ann Arbor, Mich.
W. R. King, M.D., ... Washington, D. C.
F. Park Lewis, M.D., ... Buffalo, N. Y.
E. J. Bissell, M.D., ... Rochester, N. Y.
A. B. Norton, M.D., ... New York, N. Y.
Charles Deady, M.D., ... New York, N. Y.
Thomas M. Stewart, M.D., ... Cincinnati, O.
C. F. Sterling, M.D., ... Detroit, Mich.
T. P. Wilson, M.D., ... Cleveland, O.
Geo. H. Quay, M.D., ... Cleveland, O.
H. F. Ivins, M.D., ... Philadelphia, Pa.
Wm. Spencer, M.D., ... Philadelphia, Pa.
J. A. Campbell, M.D., ... St. Louis, Mo.
D. A. MacLachlan, M.D., ... Detroit, Mich.
H. C. French, M.D., ... San Francisco, Cal.
D. A. Strickler, M.D., ... Denver, Colo.
W. A. Dunn, M.D., ... Chicago, Ill.
C. Gurnee Fellows, M.D., ... Chicago, Ill.
G. C. McDermott, M.D., ... Cincinnati, O.
Thomas L. Shearer, M.D., ... Baltimore, Md.
Sayer Hasbrouck, M.D., ... Providence, R. I.
H. C. Houghton, M.D., ... New York, N. Y.
H. P. Bellows, M.D., ... Boston, Mass.
C. E. Spahr, M.D., ... York, Pa.

PROCEEDINGS

OF THE

FIFTY-SECOND SESSION

OF THE

American Institute of Homœopathy,

HELD AT

DETROIT, MICH.,

JUNE 17, 1896.

FIRST DAY—AFTERNOON SESSION.

DETROIT, Wednesday, June 17, 1896.

THE Fifty-Second Anniversary Session of the American Institute of Homœopathy began at 3 o'clock, with its headquarters and meetings in Harmonie Hall, a handsome new brick structure situated at the intersection of Centre and Wilcox Streets, Detroit. This building was admirably located, being very nearly central to all members and guests of the Institute and modern in all its arrangements and appointments, it gave room for all meetings, general and sectional, and ample space for pharmaceutical and other displays. The auditorium was capable of seating 1200 people, with a stage accommodation for 150 more. Its decorations in honor of the Institute's sessions were eminently appropriate, the walls being hung with large black-and-white portraits, finely executed, of many of the Institute's departed heroes; among these were to be noted A. I. Sawyer, Ad. Lippe, W. E. Marcy, A. R. Thomas, Carroll Dunham, Constantine Hering, W. H. Holcomb, Nathaniel Schneider, J. P. Dake, N. O. Sturm and V. Bœnninghausen, the centre of the gallery being given to Hahnemann. On the stage a large—more than heroic-sized picture of Hahnemann, draped in the German colors, rested upon an easel; while near the centre of the stage, in front of the speaker's desk, stood a half-life-sized plaster cast of the proposed Hahnemann statue. The speaker's stand, as well as the general hall and stage, were handsomely draped with the national colors, and flowers and plants were arranged with lavish profusion.

The sessions of the Institute proper were preceded by three sessions of a committee appointed at Newport last year, called the Materia Medica Conference, which began on Tuesday, June 16, 1896, at 3 o'clock P.M., in the Turkish room of the hotel Cadillac. These sessions will be found chronicled later in these TRANSACTIONS.

At a few minutes after 3 o'clock, on Wednesday, June 17, 1896, President Pemberton Dudley, of Philadelphia, rapped for order in Harmonie Hall, and said, briefly, that the time having arrived for the beginning of the Fifty-Second Annual Session, he wished par-

ticularly, before proceeding to the routine as prepared in the printed program, to invite to the platform the ex-presidents of the Institute.

On motion of Dr. Charles Gatchell, the Treasurer, E. M. Kellogg, was also asked to take his place upon the stage, the President stating that Dr. Kellogg had been Treasurer longer than the present President had been a member of the Institute. Those on the stage were as follows: T. F. Allen, B. W. James, C. E. Fisher, J. H. McClelland, J. D. Buck, D. H. Beckwith, R. B. Rush, T. P. Wilson, C. Wesselhoeft, A. C. Cowperthwaite, E. M. Kellogg, J. S. Mitchell, T. Y. Kinne, I. T. Talbot, H. L. Chase, Vice-President D. A. MacLachlan, General Secretary Porter, and the President.

The President then invited the Rev. Mr. De Forrest of Woodward Avenue Congregational Church, Detroit, to lead the vast audience in divine invocation.

At the conclusion of an eloquent prayer, Dr. Dudley called upon Vice-President MacLachlan, Chairman of the Committee of Local Arrangements, to take charge of the session for the time, according to the program.

Dr. MacLachlan in extending the welcome of the city of Detroit and of the State of Michigan to the Institute, said substantially the following:

In behalf of the Homœopathic profession of Michigan, and our beautiful City of the Straits, I extend you most cordial greetings.

You have come from the glorious East, the land of the rising sun; the source of our nation's character, its freedom, its art, and its science; the land of the Pilgrim Fathers, the land of the witch-burner and the bean-eater.

You have come from the frigid North, the land of the towering pine, the seal and the bear; the land of the ice-palace and the glacier, the snow-shoe and toboggan; the land of the trapper, the hunter, the lumberman, and the voyageurs.

You come from the beautiful and sunny South, the land of perpetual spring; the land of Madonnas and of chivalry; the land of Pocohontas and of Washington; the land of cotton and the festive coon.

You have come also from the boundless West, the land of the setting sun, the land of promise and the nation's hope; the land which yesterday resounded with the tramp of the buffalo, the war-whoop of the Indian, and the rumble of the prairie schooner, but which to-day resounds with the cry of the herder, the song of the reaper, the pick of the miner, and the puffing of the locomotive; the land of gold and silver, of corn and beef; the land of the scout, the cowboy, and the bonanza king.

You come to tell us of the gout, the obesity, the insomnia, and the

insanity of the rich and luxurious Yankee of the effete East; of the frost-bite, the pneumonia and the rheumatism, of the strong and vigorous. but exposed denizen of the rigorous North; of the miasm, the yellow fever, the bite of the tarantula, and the dysentery of the languid and bilious planters and cotton pickers of Dixie; of the mountain fever and the heart disease of the mountaineer and miner; the bullet and knife wounds of the cowboys, the desperadoes and soldiers; and the results of hard work, privation and exposure among the pioneers and prospectors of the wild and woolly West.

You have made the long and tiresome journey, and are now saying, "come and let us reason together," let us share our observation, our investigations, and our experience with each other, and contribute each to the other's store of knowledge, that we may go back to our homes and fields of labor better equipped to begin anew the battle against disease.

You have ransacked both the vegetable and mineral kingdoms of the whole universe for remedies to restore the sick; you have invented thousands of instruments to repair injuries, and to remove diseased parts; you have delved into the mysteries of the human mind and soul, and brought to your aid psychology, magnetism, and hypnotism, to excite hope, courage, and patience, without which the poor stricken sufferer would quickly succumb; you have spent years in patient toil and study to prepare for your profession; you have slept with one eye open, ever ready to respond to the cry of distress, relinquishing many of the pleasures of life, and frequently the merited reward for your faithful and kindly services. But you have the greater reward, the knowledge that our Great Master, the Divine Healer, "who made the blind to see, the deaf to hear, and the lame to walk," and "who went about doing good," has said, "Inasmuch as ye have done it unto the least of these, my brethren, ye have done it unto me."

As you entered the portal and wended your way to your seat in the auditorium, the faces of the dead heroes of the past century of Homœopathy looked down upon you, to commend the good work you have done in the past and to inspire you to that of the future.

Here we have that of the master mind, the genius and the scientist, the discoverer of our great law of cure, the martyr who lived not for himself, but for all mankind, and who is to-day enshrined in the hearts of thousands of practitioners and millions of grateful patients.

Here also the Count Lippe, nobleman in art and science, as well as in birth and rank; the devoted and tireless Hering; the gentle and loving disciple, Dunham; the patient and sightless Hempel; the intrepid pioneer of the West, "Daddy Small;" the ever-faithful and watchful Dake; the sturdy, honest and skilful Snyder; and last, but not least, Michigan's own valiant old soldier, Alfred I. Sawyer.

These and others of our departed heroes form a galaxy of whom America, aye, the whole world, may well be proud; whom we all,

both physicians and laymen, delight to honor, and who will ever live in the hearts and memory of their countrymen.

The history of Michigan would be far from complete if it did not recount the struggles of Homœopathy, first, for its recognition by the State, and later for its rights under the State. The history of Detroit, I have often thought, is strikingly similar to that of Homœopathy. In early days both were important outposts—the one for trade and military defence, the other for dissemination of the teachings of the New School of Medicine into the great West; both were hampered by circumstances, until a greater city grew up, and a great Homœopathic College was organized and developed beyond the confines of Michigan. Recently both city and profession have risen in their might and determined to shake off the obstacles that impeded their progress. You will all agree that the city is succeeding admirably, and that it bids fair some time to excel nearly all its sister cities in manufactures, in commerce and in wealth, as it now does in beauty and cleanliness. And may we not hope that our beloved profession and cause may preserve an equal pace, and that Michigan Homœopathy may yet rank equal to any in greatness and renown as it does in valor and tenacity of purpose.

As the Mayor has welcomed you in behalf of the citizens of Detroit, so do we in behalf of the Homœopaths of our city and State, trusting that this may prove the most enjoyable, the most profitable and the most glorious meeting the Institute has ever held.

Dr. Dudley said that he had been advised that Detroit's famous Mayor was not now in Detroit, but that he had commissioned one of his eloquent officials to do the honors of the city.

Mr. Blades, Controller of the city, was then introduced, who said that he was very sorry that his Honor, Mayor Pingree, was at this time absent, else he would surely have been present at this gala session to give the Institute a hearty welcome to this city and to the homes of the people. He was not willing, however, that the Institute should go unwelcomed, and therefore requested Mr. Blades to express his Honor's wishes in the premises. In behalf, therefore, of the Mayor, of the Common Council, of the citizens of Detroit, he bade the Institute a hearty and fraternal welcome. "I feel," said Mr. Blades, "not unlike the old Jew that looked upon Jerusalem and said it was beautiful for situation and the joy of the whole earth. Detroit is beautiful for location and the joy of the whole earth, and we are very proud of it. We wish you to remember that we have flowing by our side a river that floats more commerce than enters into any port of the world, excepting none. If you have the time —and I know you are busy men—I hope you will do us the honor, and yourself the pleasure, of visiting our Island Park. They say there is but one Island Park in this world. Our streets and our homes; our churches, if you stay over Sunday—all that we have is yours for the time being, and if I had thought of it, I would have

brought you the keys of the city and tendered them to you. I heard your President announce this to be your Fifty-Second Anniversary, and it occurred to me that that was a long existence for a body of professional men. I learn also that there are but one or two of the original members of this body still living. It seems to me that you ought to make their hearts glad by a cheering telegram conveying the wishes and love of this august body at whose cradle they stood for so long a time." Mr. Blades congratulated the Institute and the Homœopathic profession upon its present honorable position in the world; he was aware, as who was not, that it had had a hard fight for supremacy. He said he was not a Homœopath, but that he was a sort of brother-in-law, his wife being a full-fledged believer in the mild curative art. In the olden times members were admitted on conviction; he believed he was under that same probationary period; he had been convicted for a long time. He mentioned the instance of having suffered for many seasons with an acute kind of dysentery. He was prevailed upon at length by his wife to try the harmless-looking little pills carrying Colocynth. He was so promptly helped that from that time on he had unbounded faith in Colocynth, and doubted not that ere very long he would be received into full membership in this church. Homœopathy, he knew, had produced a great reformation in the practice of medicine. The old fashions of bleeding, purging and other heroic methods, of which he gave several personal instances, had been done away with. He quoted finally from the experience of an Allopathic physician, who was an ultra hater of the Homœopath and his ways and medicines, who presently discovered a very simple way of checking a most disastrous epidemic of croup or something of the same nature. This doctor had a specific in a certain red powder. When pinned down to it, it was found to be practically iodide of mercury of about the third trituration. Mr. Blades believed that the great majority of Allopaths are using the principle as his friend, the doctor, had been doing, but were not aware of it.

President Dudley, having now resumed the chair, said:

Permit me, with the voice and heart of this great American Institute of Homœopathy, to return you our thanks for the very fine, kindly and cordial welcome you have extended to us to your beautiful city. We had heard much of Detroit. We had heard a good deal of its beautiful streets, and of its water ways; and incidentally we had heard much of its honored Mayor. We were prepared for great things, and we have not been disappointed. I have only to say that it doubtless may interest you to know that we have come to celebrate a sort of three-fold centennial here. This year is the centennial of Homœopathy, and our national organization has voted to celebrate it here, a fitting place amongst people who have learned to

appreciate it. But this is also the centennial of that wonderful discovery known as vaccination, and these two discoveries—vaccination and Homœopathy, whose hundredth years are now being celebrated, have done more for the amelioration of human suffering, and the preservation of human life, than any other agencies or influences of which our knowledge tells us. But I think it will interest you, who represent the city of Detroit and its honored Mayor, to know that there is also another celebration in progress or ought to be, and that there is no place on earth adapted for its celebration but Detroit. It was in 1596 that Sir Walter Raleigh introduced into Great Britain a certain new article of diet, and this is the third centennial of the potato. (Laughter and great applause.) The potato has wrought wonderful things in the economies of the universe. It has wrought not only wonderful things, but things most beneficial in the economies of your beautiful city of Detroit. But I want to suggest to you, sir, and to Mayor Pingree, that there is one thing more we would like to have cultivated right here in Detroit, which represents more than the potato can ever represent, and that is Homœopathy and Homœopathic education. The potato pays well; Homœopathy will pay better. I hope, sir, that the good people of Detroit, and the good people of this whole State, will take this matter into consideration, so that when we come again—as we shall certainly do later, being already so charmed with your beautiful city and environs—we shall see established here the University of Michigan in its Homœopathic department and in full tide of prosperity.

Dr. T. P. Wilson, of Cleveland, then read the following poem:

A Tribute to Detroit.

O, city fair! thou jewel of our land,
So queen-like sitting by thy placid stream,
Which mirrors forth thy sceptre of command,
While on its breast thy ships of commerce teem,

Here, at thy feet, where thou art nobly crowned,
Vast inland oceans pour their princely gift;
Rich ladened barques to farthest ports are bound,
And palaces of pleasure idly drift.

The broad Dominion grasps thy friendly hand
Her love for thee no idle fear abates;
And on her borders thou shalt stand,
A golden symbol of the mighty States.

Here, Science builds her granite temples strong,
Whose deep foundations Time can ne'er o'erthrow;
And their wide portals shall receive the throng
That to thy gates of welcome ever flow.

O City of the Straits! Some future time,
Will show some poet worthy of thy name,
To lisp thy praises in immortal rhyme
And tell abroad the splendor of thy fame.

But, ah! if ancient Homer walked thy streets,
Or Dante stood upon thy loftiest tower—
If all the muses grac'd thy rustic seats,
And each with each should try his vaunted power,

They might excel in song, but not in heart;
For when we hence have gone, our banners furled,
What Nature's done for thee, and noblest Art,
Shall we not whisper to a wond'ring world?

Though ramparts of the "Rockies" we shall climb,
And rivers bear us on our winding way,
No distance, howsoever vast, nor time,
Shall blur the image which we bear away.

President Dudley (having resigned the chair to Vice-President MacLachlan) then presented the following presidential address:

Address of the President.

Fellow-Members of the Institute:

In conformity with time honored custom, and in obedience to your By-Law, it is expected that the presiding officer of the Institute should deliver an address, and "make such suggestions as he may deem necessary for the Institute to take action on during the session." He is also permitted to "consider any subject relating to medical science."

This association, like all similar bodies, seeks to secure or to accomplish by organization certain objects which could not be so well attained by the independent effort of its individual members. It thus recognizes the power there is in union. Those of us who are at all familiar with the working of associated bodies are aware that if the union of the membership is merely mechanical, as it were, or if it is marred by serious personal differences, its work will be much less efficient than if the individuals composing them are strongly bound together by ties of personal friendship and mutual good will and confidence. The exercise of this mutual good will thus becomes a positive duty incumbent upon each member; and, since it is of such a nature that it cannot be enforced by a By-Law,

it seems all the more essential that each of us should be willing to make some little effort, perhaps a little sacrifice, to secure its performance. It is quite common to hear the older members of the Institute, especially those who attend the meetings with some regularity, express the great pleasure and enjoyment they derive from the personal friendships they have formed and maintained with their fellow-members, and they seem to regard these friendships as one of the strong attractions of the sessions. It is a cause for much rejoicing that amidst the diversity of views expressed in our annual sessions, it is rare indeed to witness any evidence of personal feeling. Let us this year, as usual, express our opinions frankly, fearlessly, and vigorously; and let us also remember the courtesy due to those who may differ from us, conceding to them always an honesty and intelligence equal to our own.

The Institute will doubtless be glad to know that this year the President has no changes in the By-Laws to recommend. During the past three or four sessions we have devoted a good deal of time and thought to their consideration, with the result of adding much to the efficiency and success of our sessions. But I entertain the opinion that it would be advantageous if the Institute should throw around the "Selection of the Place of Meeting" some of the especial care with which we have recently surrounded the Annual Election. Why should we not annually appoint, at the beginning of the session, a committee to receive suggestions and invitations, and to consider them with more care and deliberation than this subject is likely to receive under the present method? I venture to bring this suggestion before you, notwithstanding the patent fact that we have recently made no serious mistakes in our annual choice of a place of meeting.

We are in the habit of congratulating ourselves upon the steadily augmenting strength and influence of Homœopathy in the United States, and we certainly have good reason for doing so. The statistics of our "School," as published from year to year, indicate a continuous growth that is most encouraging to us and creditable to the intelligence of our people. But, so far as I know, the Institute has never asked herself whether this growth is as rapid as it should be and as it might be. Neither has she formally inquired as to what her relation ought to be to the work of spreading a knowledge of Homœopathy among our people. The expressed "object" of our organization—"The Improvement of Homœopathic Therapeutics and all other departments of Medical Science"—presents so sharp a definition of our province as to discourage efforts at propagandism, or enterprises of a missionary character. The interpretation of the Institute's declared object is not doubtful; but the legitimate and proper "object" of a national representative organization of men and women engaged in a great reform is a question worthy of the most serious consideration of every believer in Homœopathy, and of every organization composed of these believers.

For an object entirely unconnected with the work of this Institute, I recently made some inquiries bearing upon the subject of med-

ical college education in the United States, with a view to ascertain how much accuracy there is in the statement that our colleges are graduating too many physicians. Without going into the discussion of this subject as a whole, it may be sufficient to note that there have recently appeared in the journals statements indicating that the average age at which physicians die is about fifty-six years. An examination of the list of graduates of Homœopathic colleges, as published in our annual volume of TRANSACTIONS, shows the average age of our new graduates to be about twenty-eight years. This would leave an average of twenty-eight years as the duration of a Homœopathic physician's career, and would indicate the necessity of renewing the Homœopathic profession entire every twenty-eight years. If now we are justified in estimating the number of Homœopathic physicians in the United States as fourteen thousand, it is necessary that we graduate five hundred *per annum* in order to maintain our present number. The number reported to this body as having graduated in 1895, was four hundred and eighty-nine. It will be seen that this rate makes no provision for any permanent addition to our aggregate of practitioners; and the fact probably is, that our net increase is due almost exclusively to the number of Homœopathists who are receiving their education in Allopathic schools, and to the few Allopathic practitioners who are converted to Homœopathy. It is exceedingly doubtful if this increase is as great as it ought to be.

Regarding the ultimate acceptance of Homœopathy by the people of the United States, there is danger that we may imbibe a serious error. Practically, we seem to be under the impression that a certain relatively large percentage of people are, and always will be, predisposed in favor of Allopathic methods, and a relatively small percentage can be counted on as favoring Homœopathy. Is it not true that we unconsciously hold the idea that there will always be two or more sects in medicine, just as there are many sects in religion, and that when a certain limited proportion of the physicians of a city or town belong to the Homœopathic school, there has been reached a limit which it is not wise to try to exceed? If we are being influenced by such a thought, I would respectfully ask if it rests upon a proper basis of fact. If Homœopathy represents the scientific side of medicine, as we think it does, why should we not expect to see its doctrines held by every physician practicing in New York, or Boston, or Chicago, or Philadelphia, or Detroit? Why should we limit our expectations of its progress?

In this hundredth year of Homœopathy, and this seventy-first year since its introduction into the United States, there are still entire states in which there are but a handful of Homœopathic practitioners; and there are hundreds and hundreds of towns having each a population of one thousand to ten thousand in which there is not a single physician of the Homœopathic school. The *Medical Directory* of Polk & Co., of Detroit (edition of 1893), shows that in Cleveland, Ohio, at that time, at least 21 per cent. of the physicians were Homœopathists. A similar ratio throughout the country

would represent a total of not less than twenty-five thousand Homœopathic physicians in practice in the United States. If such be the condition of affairs in one city, it is possible to bring it about in all other cities and towns. But the accomplishment of such a work would require effort—organized and wisely-directed effort. Does not such a work fall as much within the province of this Institute as does the supervision of medical legislation or of life insurance examinations?

I am not prepared to recommend any special line of action on this matter, except that it ought to be constantly before our standing Committee on Medical Education, and that we ought to receive from that committee, at no distant day, a report having a practical bearing on this important subject.

The subject of our relation as an organization to the condition and interests of Homœopathy and its practitioners in the several states is receiving much consideration in the minds of our physicians, yet not more than it merits. The relation of our state and local societies to this body is likely to force itself upon attention, and it ought to be met in a spirit of careful inquiry, with a view to the final adoption of such measures as will best promote the interests of our cause throughout our country. The provision made last year for the formation of an Inter-State Committee, on a basis similar to that of our Inter-Collegiate Committee, will doubtless aid in the establishment of suitable relations between the state and national societies such as will be mutually beneficial.

It is with regret that I feel called upon to ask your attention to the enormous increase of what may be termed "Proprietary Quackery," and to the use which is being made of the medical profession in advertising its wares among our people.

The plan of operation, as is well known, is about as follows: A "sample" of the medicine is handed to the unsuspecting practitioner, with a circular setting forth its properties and merits, and containing a printed "formula" of the preparation. This sample is tested, and, out of the thousands of samples distributed, a number appear to yield satisfactory results, and the physician writes for an additional supply, including in his letter some unguarded statement amounting to an indorsement of its merits. This is precisely what the proprietor wants, and the next circular sent out contains these indorsements of these more or less reputable physicians, and the new "medicine" is fairly launched upon the market. From that time the accumulation of more fulsome recommendations is an easy matter, and the unpretentious "circular" grows into a "Treatise." Meanwhile, all this is "For the physician only," but the treatise soon begins to reach the private family, and the wonderful "remedy" is openly advertised in a hundred thousand drug-stores, and sold without a prescription to whomsoever will buy. The consequent effect upon the public health, and the degradation which the scheme entails upon the medical profession, need not be dwelt upon, but there should be some method devised by which members of the profession could be placed on their guard and

prevented from becoming participants in such schemes of quackery. I would respectfully suggest and recommend the adoption of a resolution setting forth certain rules for our guidance in relation to these proprietary medicines, which rules, if carefully followed, would guard us against being victimized by such methods. I would suggest that the resolution be formulated somewhat as follows:

Resolved, That in order to aid in carrying into effect the spirit of the Code of Ethics (Part II.. Article I, Sections 3 and 4), we recommend that the physician should carefully avoid indorsing:

1. Any drug or medicine the right and knowledge of whose preparation is not the common property of the whole pharmaceutical trade.
2. Any drug or medicine known or designated by the name of any individual or manufacturing firm.
3. Any drug or medicine known or designated by its real or alleged therapeutic property.

I am of opinion that with some such rules as a guide, we would be unlikely to prostitute our professional influence to the purposes and schemes of quackery.*

Fellow-members of the Institute: Permit me, in assuming the duties and responsibilities of the Chair, to tender to you my grateful appreciation of the honor you have conferred upon me and of the confidence you have reposed in me. How well I may acquit myself will depend largely upon your kindness and forbearance. It rejoices me to be able to say that I have no reason to believe or fear that there is entertained toward me, by any member of this body, any other sentiment than that of kindliness and friendship. I could not, therefore, even if I wished, find any reason or excuse for the official exercise of partiality or the display of discourtesy toward any fellow-member. In the matter of awarding the privilege of the floor when several members desire to speak, it is not uncommon to hear complaints of discrimination on the part of the Chair, and I confess to more apprehensiveness on this point than almost any other. Yet if I should make mistakes, I am sure you will acquit me of intentional injustice.

At the conclusion of the address, on motion of Dr. T. P. Wilson, the Vice-President appointed the following a committee to consider the address and make a report: Drs. J. S. Mitchell, A. B. Norton, Oscar Leseure, W. W. Van Baun and W. H. Hanchett.

On resuming the chair, President Dudley called for the report of the Executive Committee, which was presented as follows, by Dr. Porter:

* A portion of the President's Business address is here omitted, having been lost while in custody of a medical journalist to whom it was loaned for publication.—EDITOR.

Report of the Executive Committee.

The Executive Committee would report that all the routine duties assigned to it by the By-Laws have been duly attended to. A special meeting of the committtee was held in New York, in March, and the program for the Detroit session of the Institute carefully arranged. Every effort has been made to keep in touch with the Committee on Local Arrangements, and the best interests and convenience of the Institute have been kept steadily in view.

The instructions of the Institute, to give each section, as far as possible, at least one session before the entire Institute, have been heeded, and the changes in the program are in accordance with this policy. The program and order of business may be found in full in the annual circular recently distributed among the members. We respectfully recommend that it be accepted as the order of business of this session.

Pemberton Dudley, M.D.,
President.

E. H. Porter, M.D.,
Secretary.

On motion of Dr. T. Y. Kinne, the report of the Executive Committee was accepted, and the program adopted as the order of business for this session of the Institute.

General Secretary Porter next presented the report of the Committee on Publication, as follows:

Report of Committee on Publication.

The Committee on Publication respectfully reports that the Transactions for the sessions of 1895 were published in the usual form, the definite directions of the By-Laws being carefully followed. The work makes a volume of 1208 pages. Eighteen hundred and twenty-five (1825) copies were printed, of which about twelve hundred have been distributed to members of the Institute and various institutions.

The General Secretary desires to call the attention of the Institute to the following points:

1. The total cost for printing the Transactions for 1894 was $3229.85. This was a volume of 1332 pages, and 1700 copies were printed.

The Transactions for 1895, containing 1208 pages and 1825 copies, cost $2986.48, an apparent gain of $243.37. But the real gain was more than that. The change of type saved 100 pages, and the cost of the volume was thereby lessened by $200, and there were printed 1825 copies, against 1700 last year, a saving, as against last year's figures, of $67. The total saving for the Institute, therefore, on the Transactions of '95 is $510.37.

2. But much more may be saved in the the future if the Institute will give more discretionary power to the General Secretary.

(*a*). The Report of the Business Session may be greatly condensed and a large saving effected if the secretaries be given full power in the editing of the report. Further, the TRANSACTIONS could be pushed through the press more quickly if the custom of sending remarks of members to them for correction were abolished.

(*b*). The Report of the Committee on Organization, Registration and Statistics can be, and in the opinion of the Committee should be, very materially abbreviated.

The statistical tables should be entirely abolished, the information therein contained being "run in" in the ordinary way; much of the Reports on Hospitals, Dispensaries and Medical Colleges should be omitted and the remainder condensed.

(*c*). The necrological list should be stereotyped or published every five years.

(*d*). The scientific papers should be selected for publication in the TRANSACTIONS by a special committee, and no little improvement in the volume and a very considerable saving would result.

PEMBERTON DUDLEY, M.D.,
President.

E. H. PORTER, M.D.,
Secretary.

Dr. T. Y. Kinne moved to accept the report. Seconded, and so ordered.

Treasurer E. M. Kellogg, M.D., then presented his report, as follows:

Treasurer's Report.

NEW YORK, June 16, 1896.

The American Institute of Homœopathy, in account with E. M. KELLOGG, Treasurer, and T. F. SMITH, Assistant Treasurer.

Receipts.

By Balance from last report,	$381.34
" Collections from Members,	6099.00
" Interest,	27.79
	$6508.13

Disbursements.

To Dr H. M. Smith, Necrologist,	4.80
" Special R. R. Agent at Newport,	12.00
" Dr. P. Dudley, for Postage, Expressage, etc.,	54.88
" Dr. J. C. Burgher, for Postage, Expressage, etc.,	13.17
" Dr. F. Kraft, Stenographic Expenses, etc.,	590.25
" Treasurer's Expenses at Newport,	117.89
" Secretary, Salary,	1000.00
Carried forward,	$1792.99

Brought forward,	$1792.99
To Secretary, Postage, etc.,	91.30
" Committee of Organization, Registration, etc.,	173.65
" Subscription to Hahnemann Monument, first payment,	500.00
" Committee on International Congress,	20.00
" Committee on Transportation, 1895,	50 00
" Treasurer's Postage, etc.,	263.05
" U. S. Express Co., delivering TRANSACTIONS, etc.,	550.41
" Miscellaneous Printing, Stationery, etc.,	601.30
" Rent of room for storing TRANSACTIONS,	60.00
" Photographing for TRANSACTIONS,	89.64
" Engrossing Certificates of Membership, etc.,	61.30
" Institute Buttons,	12.50
" Printing TRANSACTIONS of 1895, on account,	1896.48
' Special R. R. Agent at Detroit,	20.00
	$6182.62
Balance on hand,	325.51
	$6508.13

The Auditing Committee, consisting of Drs. W. R. King, Willis A. Dewey, and C. B. Kinyon, reported as follows:

We, the undersigned, have this day, June 17, 1896, examined the within accounts of the Treasurer and accompanying vouchers, and find them to be entirely correct.

Auditing Committee: { WILLIAM R. KING, Chairman. W. A. DEWEY, C. B. KINYON.

Dr. Kellogg: For the first time in many years—these twenty-five years—I have to report a deficiency, although this report as read, shows a surplus on hand; still there are a number of bills unpaid. I have paid $1896 for printing; the bill was $2896; there you see is a thousand; then there is a bill for printing of the program of some $300, others for miscellaneous printing, etc. There is also a claim still of $2090, which is our remaining part of the subscription to the Hahnemann Fund, making a total of $3300. I had the misfortune at Chicago to report a surplus of $1500, and as a consequence the Institute has made a raid upon the treasury, increased its expenses in new and various directions, so that for the last three years the annual expenditures have exceeded the income by nearly $1000 dollars; and to that you must add the fact that the times for the past two or three years have borne hard upon the medical profession; collections have not been as full as in previous years. You, of course, expect me to make some suggestion as to how we can make good this deficiency. There are various ways of meeting it. One is to repudiate our debt; that has been done by various of

the weakly states. Another method is to issue bonds, as has been done by the highest powers in the land; but I hardly think that is feasible. Another is to increase the tariff—that is, increase the dues. The remedy that naturally suggests itself is to cut down expenses. What has been said by the Secretary in regard to some of his work, will be covered by a motion which I will now make; that a special committee of three be appointed by the chair to confer with the secretaries and the treasurer and to report at an early day—to-morrow, if possible—such measures of retrenchment as may bring the expenses of the Institute within more reasonable bounds without impairing its efficiency and usefulness.

This motion was seconded and carried.

The President appointed as such committee: Drs. T. Y. Kinne, J. S. Mitchell, and D. A. MacLachlan.

The report of the Committee on Transportation was called for but not responded to.

Dr. Cowperthwaite, on behalf of the Censors, reported the receipt of 36 applications for membership. These names were read and ordered posted, as required by the By-Laws.

Dr. Knight, on behalf of the Local Committee of Arrangements, outlined the work done and the entertainment provided for the Institute and its friends, after which the general session adjourned.

SECOND DAY—MORNING SESSION.

THURSDAY, June 18, 1896.

At 9.30 this morning, President Dudley and a bare quorum were present in the auditorium. A number of the committees were called but failed to respond by chairmen or otherwise.

Dr. Cowperthwaite, of the Censors, reported eleven new names for membership, which were accepted and ordered to take the usual course. The thirty-six candidates reported yesterday were then elected to membership.

The Memorial Committee reported through its chairman, Dr. S. P. Hedges, that arrangements had been completed for holding the services on Sunday morning in the First Presbyterian Church, corner of Woodward Avenue and Edmund Place. A full report of the memorial services will be found in another place.

Medical Legislation was next called, and responded to by Dr. J.

B. Gregg Custis, of Washington (Dr. Higbee not being present), who said that Dr. Talbot had a report to make.

Dr. Talbot made a brief verbal report, and the report of the chairman of this committee, Dr. Chester G. Higbee, was then read by Dr. Custis, as follows:

REPORT OF THE COMMITTEE ON LEGISLATION OF THE AMERICAN INSTITUTE OF HOMŒOPATHY, 1896. BY CHESTER G. HIGBEE, M.D., CHAIRMAN.

Mr. President:

Your committee would respectfully report, that so far as they can learn, no examining board laws have been enacted in any of the states during the past year. Some of the states have passed laws establishing licensing boards.

The chairman of this committee has communicated with each member of the committee, and asked for advice in regard to matters which he deemed proper and instructive subjects for discussion by the committee, and asked each member to report upon some separate subject.

We expect papers from Dr. Talbot upon the subject of reciprocity of examining boards and the legislation necessary to secure desired results in that direction. Under existing circumstances it seems desirable that some general law be enacted that would insure uniformity in examining board laws as nearly as possible, and that the same standard be required by all boards. Then it would be a short step to the recognition of licenses honestly and fairly obtained in one state by all other states. It is manifestly so unjust for a free country to require a man who has qualified himself according to the laws of one state to pursue a certain business, to oblige him, every time he moves from one state to another, to be to the trouble and expense of again getting a license, that we are confident the members of this Institute will eventually be united in securing such a law. When we remember that all restrictive legislation was initiated by the Allopaths with the avowed purpose of suppressing Homœopathy, and that such laws are upheld by the specious but doubtful argument that they are in the interest of public health, it seems to us that unless the supporters of such laws can show that the death-rate has been decidedly reduced in those states where examining board laws are in force, and that in comparison with the death rate in states where such laws are not in force, that the percentage of deaths has been reduced, that the supporters of such laws have no ground to stand upon, and must fall back on the selfish one of not wanting any more competition. We expected to have a comparative statement on this subject for this meeting, but owing to the time and expense of getting such a reliable statement prepared, we shall not be able to present it now. As far as the investigation has gone it shows a surprising lack of evidence in support of examining board laws.

In the states of which we have personal knowledge, we know that the examining board laws are filling these states with recent graduates of Allopathic colleges, and that very few men of experitence and established reputations will go into a state and go before a board for examination. The effect this would have upon the death-rate of a state can readily be imagined.

We expect Dr. Custis, of this committee to present a paper bearing upon the progress of Homœopathy in the states that have examining board laws, and it will no doubt be in his usually forcible and instructive style.

Dr. Orme is expected to report the status of medical legislation in the South, and suggest changes in our general laws.

The chairman has urged Dr. Couch to report some plan embodying such legislation as he thought advisable to facilitate representation of the Homœopathic School in the Army and Navy of the United States. It seems to us that the time has come when we should make determined and persistent efforts to have official recognition, and the fact fully established that because a physician believed in and practiced Homœopathy that this should constitute no bar to his acceptance as an army or naval surgeon if he was otherwise well qualified. The fact that a large number of young men are graduating from both Homœopathic and Allopathic Schools will disarm critics and officials who say that our men are not as well educated as those of the Old School. It is our conviction that if a young doctor is not convinced that the Homœopathic practice is superior to the Allopathic, and that the more he learns the better he can apply the principles of Homœopathy, the sooner he goes over to the Old School the better it will be for Homœopathy, as he will sooner or later gravitate downward, and in the end be neither one thing nor the other. We know a few young men who are graduates of both schools, and whom we believe could go into the army or navy medical corps, and in a few years exert a powerful influence in raising these medical departments of our national administration out of the rut and mould in which they are plodding. We hope the Institute will take time to consider this subject and arrive at some comprehensive conclusions, so that your Committee on Legislation may work along the lines approved by the Institute.

The members of this committee have very little opportunity to confer together except by correspondence, and the papers presented are the expression of individual views in most cases. While nearly all are of the opinion that examining board laws are unjust, restrictive of individual liberty, and un-American, yet some of us realize that the resident physicians of our national capital are placed in a peculiarly aggravating position, and we trust the Institute will approve of some conservative measure of relief, and recommend laws that are necessary to make such relief measures effectual.

If the Institute wishes to change its policy in regard to examining board laws it should pass such a resolution. Until this is done we believe it to be the duty of members to conform to the expressed

wish of the Institute, and loyally aid in carrying out such measures as are considered to be for the greatest good of the greatest number.

Dr. Custis presented his own report in the following words:

Mr. President:

When I received my appointment on this committee, I thought it incumbent upon me to gain what knowledge I could as to the present status of medical legislation, especially as it affected our school. I had already become somewhat familiar with the subject because of my position as chairman of the Legislative Committee of our local society.

In order to present the subject in a practical manner, I have had a table prepared, based upon one received from the Bureau of Education, but corrected and carried up to date. This table will show at a glance the character of the laws in force in the different states.

Let us briefly summarize the information contained. Examining boards proper exist in 24 states; in 7 states each school has a board; in 22 Homœopathy is represented; 23 states require verification of diploma or registration, and 47 states have a law of some kind. There is another important feature of the subject, and that is the method followed in the appointment of the boards. You will notice that there are several ways of doing this.

In order to learn the effect of the laws upon the growth of our school, I sent letters to the Secretaries of all the State Societies registered in the TRANSACTIONS of the Institute. I have received answers from thirty. I am sorry to say that these contain very little definite information as to the actual effect of the laws upon the increase or decrease in the number of Homœopathic physicians in their states.

All of the states which are at present without examining boards are crying for them. I do not want to mislead you in this statement, because the main reason for the cry heard from those states is, that inasmuch as their neighbors have such laws, they become the dumping-ground for the refuse of other states.

The honored chairman of this committee gave the most satisfactory answer to my enquiries. He is the only one living in a state with an examining board who made objection. I will read his letter.

ST. PAUL, April 20, 1896.

J. B. G. CUSTIS, M.D.,
Washington, D. C.

My Dear Doctor: I have had the records of the Examining Board of this state and our State Society records examined, and as near as we can learn, the number of Homœopathic physicians in this state in 1884, five years before our examining board law went into effect, was 110. In 1890, the records show 189. At the present time there are but 203 in the state. Showing that for the six years previous to the examining board law being put into force, we had gained 79, and in the six years since that time we have gained only 14.

In the last six years nearly 600 Allopaths have passed the board, fully 80 per cent. being recent graduates when they took the examination. Yours truly and fraternally,

CHESTER G. HIGBEE.

Most of the objections to these laws which we have received from other sources than the secretaries of the State Societies, including the letter of the chairman of this committee, are based on the statement that such legislation does not commence at the right end of the difficulty, but should affect the standing of colleges directly, instead of indirectly, as has been done; and that such laws give an undue advantage to recent graduates.

Our answer to these is, first, that an ideal condition of affairs would be that no law regulating the practice of medicine was necessary, and that no college should give diplomas to physicians not duly qualified to enter the profession, either by reason of mental or moral weakness.

Second, that this whole subject has been taken out of the range of theory and become one of public necessity. Inasmuch as some states have such laws, giving authority to examining boards to revise the work of colleges, those states which are without such boards are likely to be overrun by the inefficient and weak members of the profession.

Third, as a school, we cannot afford to consider mere increase in numbers. Our growth depends upon the improvement in the quality of our practitioners.

Again, if such laws were universal, any weakness or injustice would be so apparent that it could easily be corrected.

For example, make the laws universal and the demand for reciprocity will give rise to the rule that a certificate from any board, saying that a certain physician, even though he has not passed an examination, has been in good standing in its community for ten years, more or less, will be received as meeting the requirements for a license to practice in all other communities.

From the information received, I am forced to the opinion that, under the present circumstances, laws regulating the practice of medicine are necessary even for us. Homœopathy as a School has increased more rapidly in the United States than in any of the older countries because of our freedom and independence, but the same freedom acts as a great disadvantage in the educational institutions of the country. There is no uniformity of standard required for certificates or degrees in any of the colleges or universities, each college, or each section, has its own ideas, its own methods, consequently its own standards. This applies to all educational institutions, and affects medical schools in common with all others.

The enactment of laws regulating the practice of medicine has done more to elevate the standard of medical education than any other means. Of course, I am not unmindful of the fact that both the American Institute of Homœopathy and the American Medical Association, by virtue of their commanding influence, have helped

States.	Number of Examining Boards.	Members.	How Appointed.
Alabama	1 Reg., *h.*	10.	State Medical Association.
Arizona Territory	0 see *c.*		
Arkansas	1 for each county, *f.*	3 each.	By Courts.
California	3 Reg., Hom. and Eclec., *g.*	7 "	Nominated by Medical Societies
Colorado	1 mixed, 6 Reg., 2 Hom., 1 Eclec., *g.*	9 "	By Governor.
Connecticut	3 Reg., Hom. and Eclec., *g.*	5 "	Nominated by Medical Societies.
Delaware	2 " " *a, f.*	5 "	Nominated by Medical Societies.
District of Columbia	3 " " and Eclec., *a, f.*	5 "	Reg. App. by Com. Hom. and Eclec. Nom. by med. socs
Florida	1 for each jud. dist. and 1 for Hom for State at large, *f.*	3 "	By Governor.
Georgia	3 Reg., Hom. and Eclec., *f.*	5 "	" "
Idaho	0 see *c.*		
Illinois	1 Board of Health, *d, g.*	7.	By Governor.
Indian Territory	2 Reg. Cherokee, Choctaw, *g.*	3 each.	By Chiefs.
Indiana	0 see *c.*		
Iowa	1 Board of Health, *g.* Homœopathy represented.	7.	By Governor.
Kansas	0.		
Kentucky	1 Board of Health, *c.*	7 *e.*	By Governor.
Louisiana	2 Reg., Hom., *f.*	5 each.	Nominated by Medical Societies.
Maine	1, *f.*	6 *e.*	By Governor.
Maryland	2 Reg. and Hom., *f.*	7 each.	Nominated by Medical Societies.
Massachusetts	1 Board of Health, *i.*	7.	By Governor.
Michigan	0, see *c.*		
Minnesota	1, *f.*	9 *e.*	" "
Mississippi	1 Board of Health, *f.*	12 *e.*	" "
Missouri	1 " " *f.*	7 *e.*	" "
Montana	1, *f.*	7 *e.*	" "
Nebraska	1 Board of Health, with 4 secretaries, *b, g.*	7.	" "
Nevada	0, see *c.*		
New Hampshire	0, see *c.*		
New Jersey	1 mixed, 5 Reg., 3 Hom., 1 Eclec., *f, i.*	9.	" "
New Mexico Ter.	1 mixed, 4 Reg., 2 Hom., 1 Eclec., *g.*	7.	" "
New York	3 Reg. Hom. Eclec., *f.*	7 each.	By Bd. Regents of Medical Societies.
North Carolina	1 Reg., *f.*	7.	"The State Medical Societies."
North Dakota	1 mixed, 6 Reg., 2 Hom., 1 lawyer, *f.*	9.	By Governor.
Ohio	1 mixed; Homœopathy represented, *g.*	7.	" "
Oregon	1 mixed, 3 Reg., 1 Hom., 1 Eclec, *f.*	5.	" "
Oklahoma	1, *g.*	3 *e.*	Board of Health.
Pennsylvania	3 Reg., Hom. and Eclec., *a, f.*	7 each.	Nominated by Medical Societies.
Rhode Island	1 Board of Health, *g.*	7 *e.*	By Governor.
South Carolina	1 for each county, *f.*	7 each.	" "
South Dakota	1 Board of Health, *g.*	5 *e.*	" "
Tennessee	1 " " *g;* Hom. representation.		" "
Texas	1 Board for each jud. district, *f.*	Not less than 3.	By Judges.
Utah	1 Homœopathic representation, *f.*	7.	By Governor.

States.	Number of Examining Boards.	Members.	How Appointed.
Vermont	3 Reg. Hom. and Eclec., *g.*	3 each.	Nominated by Medical Societies.
Virginia	1 mixed; Homœopathic representation, *f.*	13 *k.*	By Governor (?).
Washington Ter.	1, *f.*	9 *e.*	" "
West Virginia	1 Board of Health, *f.*		" "
Wisconsin	0, registration with board censors med. society.		
Wyoming	0, filing diploma with county clerk.		

a. Delaware has a Medical Council, composed of Chief Justice of State and the Presidents of the two Boards of Examiners. This Council issues certificates.

District of Columbia has a Board of Supervisors, composed of the President, three Boards of Examiners, a lawyer and a layman.

Pennsylvania has a Medical Council, composed of Lieut.-Gov., Atty.-Gen., Supt. Pub. Instruction, President State Bd. Health and Vital Statistics, and the Presidents of the 3 Boards Medical Examiners.

b. 2 Reg., 1 Hom., 1 Eclec.; 3 *ex-officio*, Gov., Atty.-Gen. and Supt. Pub. Instruction.

c. Simply requires certification of diploma.

d. When first appointed had 5 Reg., 1 Hom. and 1 Eclec., and this arrangement has never been changed.

e. Medical schools not mentioned.

f. Requires actual examination.

g. Requires verification of diplomas; will examine in absence.

h. Alabama requires diplomas from regular school, and examines "irregular" applicants.

i. New Jersey requires a unanimous vote.

k. 1 for each congressional dist., 2 from State at large and 5 Homœopaths from State at large.

l. Requires registration.

to raise the standard; and their support, which has been moral, likewise affects the students and induces them to accept the requirements of a higher standard. We cannot deny the fact that the enactment of laws has influenced the colleges, because it came as a demand. In many of these laws the insertion of the words "in good standing" has made the colleges agree to a uniform course of study. They should agree in the quality and quantity of preliminary education, but this they have not yet done.

The most satisfactory law is one that provides for actual examinations, but, as Homœopathists, we must demand and insist upon our right to govern our school and our own men. We want a law which gives us absolute equality with the dominant school. This has been obtained in California, Connecticut, Delaware, District of Columbia, Georgia, Louisiana, Maryland, New York, Pennsylvania and Vermont. Second, a law which will obtain absolute uniformity of standard for all schools. It is also very desirable that there should be reciprocity between the different examining boards. Further than this, we should always insist that the boards be nominated by the medical societies, as this procedure takes the appointment out of the hands of politicians. We cannot afford to mix politics with either our medicine or our religion.

We offer the law, as recently enacted in the District of Columbia, as a model, believing that it covers more generally the conditions as they exist in most parts of the country than any other law of which we find record. It gives absolute equality, because each school has its own board. Uniformity of standard is secured by a Board of Supervisors made up of the presidents of the different boards, a lawyer and a layman. This board stands in place of the Board of Regents in the State of New York, the Advisory Board of Pennsylvania and the Medical Council of Delaware. This board has the supervision of the questions, access to and custody of the examination papers, so that each board stands guard over the other, and protects the profession from injustice on the one side or the other.

The defect in the laws which examine diplomas is, that a physician may have a diploma from the best college in the country, and yet so retrograde in his methods of practice that he would be undesirable in any community, regardless of his record. Under such laws he cannot be legally refused a license to practice.

Alabama gives an example of our failure to be represented as a school in the laws of a state. She makes a pitiful appeal for a change in the law, and claims that because of the great amount of courage required to pass a board of the opposite school, our physicians are kept from the state, even though its citizens are crying for Homœopathy and its physicians greatly overworked.

Many of the objections raised to actual examining boards are well taken, because of the lack of practical judgment shown by the examiners.

The moral effect of this Institute would be great did it insist upon reciprocity between the boards, and also that the examinations be eminently practical. Some of the questions asked are not pertinent to such examinations, and should not be given outside of a class which, for a full term, has been under the instruction of the examiner.

We do not sufficiently appreciate the power the Institute may have in these matters, and we suggest that a special effort be made to help our friends in Alabama by the passage of resolutions here, and instructions given to the Committee on Legislation, that they communicate with the authorities in that state and insist upon recognition. No commonwealth will turn a deaf ear to a voice emanating from a body of the moral standing and scientific attainments of the American Institute. I have no doubt that such resolutions passed here, and followed up when the legislature is in session, would be of great assistance to the physicians located in that community. Let us make a test case of Alabama. Let me read you one clause from her law, which is as follows:

"2. That no person shall be permitted to practice any irregular system of medicine in any of its branches or departments as a profession or means of livelihood in this State, without having obtained a diploma or certificate of qualification in anatomy, physiology, chemistry and the mechanism of labor, from some authorized board of medical examiners, as hereinafter provided."

Dr. Duffield writes as follows:

"Concerning your inquiries about medical legislation. All I can say is that it is entirely in the hands of the Old School. Homœopaths are classed with the irregulars, along with quacks, etc. The law undoubtedly is a checkmate on our school in this state. I have had twenty-five or more applications for locations in this state from new and old graduates within the past year, and have informed them of the requirements of the existing law requiring examination before an Allopathic board, but have told them that any graduate from one of our colleges recognized by the American Institute of Homœopathy ought to pass the examination easily, yet only one has been brave enough to come to the state, and he got frightened off by Dr. Henry, who scared him worse than the Old-School Board of Examiners, and he did not stay long enough to take the examination, but went home to Ohio. I sent the gentleman to Montgomery, thinking that he would get a more fairly technical examination there, as had Dr. Francis Z. Lamb, who successfully passed it last winter.

We came within two votes in the House of breaking the law four years ago, and last year when the Legislature was in session we entered a bill to *amend* the existing law so that Homœopaths and Eclectics could each have separate State Boards, composed of five members appointed by the Governor from lists furnished by the respective State Societies, the same not to conflict with the Old-School Boards in their own work, and the examinations to be conducted on the same plan or scheme as theirs, according to the present law. It was never heard from after it was sent in, and so we will have to wait until the next Legislature meets.

We have only eight members now in our State Society, and there are only three or four more Homœopaths in the state, so you see we are in a bad condition *numerically*, but practically have our hands full and need help to hold the fort. With the people Homœopathy is gaining ground and we need more physicians.

Yours truly,
A. M. DUFFIELD.

The committee feels justified in saying that if the Homœopathic practitioners will work together, asking for such assistance as they have at their command, they can secure the recognition which is necessary for their further progress. There are more irregular and dangerous practitioners holding diplomas from the Allopathic and Eclectic Schools than there are from ours. The Old-School fraternity suffers more by the absence of laws than we do, consequently they are more anxious for their passage, and as it requires but little effort to prevent such legislation by dictating as to the terms of silence, we can secure equal representation or separate boards.

Mr. President, I will not take any more time. The committee respectfully asks that the subjects mentioned in this report be carefully considered by this Institute at its present meeting.

It was moved and seconded that the report of this Committee on Medical Legislation be referred to the Committee on Publication.

Dr. C. E. Fisher objected to the proposed course. I have no doubt, he said, that this committee has given serious consideration to this topic, but one of the papers, Dr. Custis's, if I remember correctly, is calculated to mislead the members of this Institute in relation to the status of affairs in the United States. We are told by Dr. Custis that there are twenty-four states which have examining boards. That is not so. For instance, California is named as one of the examining board states. California is not an examining board state. It has a law which goes by that name, but it is not true in fact. It accepts the diploma. Dr. Custis also has placed Illinois among the examining board states. It examines diplomas and passes upon the value of colleges. I ask that this matter be a little more carefully analyzed, and that the committee give us a more careful examination of the question.

Dr. Custis (referring to the statistical table): There are no states so mentioned in this report. Under California it says that there is a board composed of seven members, this board requires verification of diplomas, and will examine in absence of diploma.

Dr. Fisher: Dr. Custis stated emphatically in his paper that there are twenty-four states which had examing board laws. What is an examining board law? It is a law which requires an examination of a physician, whether he has a diploma or not. Every physician who comes to that state to practice medicine must be examined. Now California does not require that. It accepts the diploma of a duly graduated physician. The really good work of such a law is its effect upon the colleges and not upon its graduates. It makes laws looking to the raising of the standard of excellence for admission into the college. You will never get the Carolinas, Alabama or Mississippi or any of the frontier states to adopt the examination board. When you come to the Legislature with the political influence of the members of a profession 4000 strong—the Allopaths of Texas, for instance—and, on the other hand, with 40 Homœopaths demanding equal representation, you can't get it. The right thing is for our national body, which represents the weakest as well as the strongest, to adopt laws to satisfy the strongest and yet not crush the weakest. In Mississippi we are less in numbers than we were two or three years ago. Is not this true also in New York? I don't object to the committal to the Publication Committee if the American Institute of Homœopathy clearly and thought-

fully defines this topic. But for us to give this misleading total is wrong. It is no more fair to place California among the state examining boards than it is to put Illinois there.

Dr. T. F. Allen: I want to correct Dr. Fisher. He says the number of physicians practicing Homœopathy has fallen off.

Dr. Fisher: I meant to say that the increase was not relatively so large.

Dr. T. F. Allen: The decrease in the number of Allopathic physicians is greater in proportion than the decrease in Homœopathic physicians in the state of New York. It has also been found by the regents of the state of New York that a larger per cent. of Allopathic physicians fail to pass examination than Homœopathic. The same is true in New Jersey. The best thing that can be done for Homœopathy is to establish these examining boards, because it will kill off these ignorant Allopaths. I have been recently advised by legal authority in New York that this whole business is unconstitutional and un-American (applause). He told me that a few years ago New Orleans imposed a tax of $20 on men soliciting trade—drummers as they are sometimes called. They paid the tax, or the commercial houses for them paid it for a while, until some one finally said, We are not going to stand this kind of thing any longer. They went to the Supreme Court of the United States, which decided that an American citizen who had the right to do business in any one state has the right to do business in any other state of the United States. If one of these weakest states would make a test case to determine if a man had the right to practice medicine in Massachusetts he had the right to practice medicine in New York or New Orleans, it seems to me the question would be quickly settled. I think for the benefit of some of our weaker states we ought to get an opinion upon that question and in that way secure some legislation, or carry the whole question to Washington, that would cover the whole ground.

Dr. Porter: Concerning the New York law, I would like to say a few words. I may have misunderstood Dr. Fisher, but my impression gathered from his remarks was that the law of New York was not satisfactory to the Homœopathic profession of that state. Now we do not regard our examining law as an ideal law—as a perfect law—as a law beyond reproach. We do not think we have reached the highest that can be obtained; and yet the Homœopathic profession to-day in New York are a unit in support of our examining board law, for reasons which we fully understand. The entrance

examination—something entirely different from our examining board law—requires of all applicants who desire to study medicine that they shall be possessed of certain qualifications. That is one thing of which we are particularly proud, because we have begun at the right end; but we are forced by the existing conditions to still have an examination at the other end, and for reasons that we think you understand. But the point that I want to make is this: that we in New York are a unit in the support of our examining board law. Dr. Allen has spoken of the possible unconstitutionality of this law and that it is un-American. I hold that this law is un-American because it interferes with the rights of the citizens of one state to practice their profession in any other state; but it is the law and has been so decided by the Supreme Court. We should direct our efforts so to establish, if possible, the power of license so that a man can practice in any state from Maine to Texas.

Dr. F. Parke Lewis: I want to cite one effect of what Drs. Allen and Porter have spoken—in regard to the effect of the examining board law in the state of New York. A letter recently received from Mr. Parsons, who is secretary of the Board of Regents, giving the statistical results of the examinations from the different colleges, placed the New York Homœopathic College in numbers of graduates third on the list. The examiners have a method by which those who reach a certain standard are specially marked. For instance, those who reach the highest standard are called honor graduates. The New York Homœopathic College was placed in the honor list and stood first.

Dr. J. H. McClelland: I wish to also correct what might be a wrong impression with regard to the examining board law as it exists in Pennsylvania. I am not clear that this Institute should make any deliberations whatever upon that subject. I don't believe that this Institute, made up of weakly states as has been said, as well as the stronger states, should make any fixed deliberations upon this subject. But as to the effect of the examining laws in such states as Pennsylvania and New York there can be no reasonable doubt of its efficacy. The examining law as it exists to-day in Pennsylvania is the work of the Homœopathic profession of that state. The opposition to that law came almost wholly from the college men—the Pennsylvania University—not the Homœopathic college men, for they were with us and worked for it. The Old-School men brought in a bill requiring a lower standard of medical

education than did the Homœopathic members; and when the Legislature had the two bills presented to them side by side they said if it is true that this legislation is for the protection of the people primarily, and secondarily for elevating the standard of medical education, then these Homœopathic people have set the higher standard, which we did, and our bill was adopted. As to the effect of it there is no doubt about it at all. The effect has been to elevate the standard of medical education. In New York for many years past an educational requirement was necessary for entrance to the college. But this law makes necessary a certain curriculum which does elevate the standard of medical education. Now this is true, and while it is true I am free to say that we ought not to put on our statute books any law that would force any state where it would not be applicable to adopt examining board methods.

Dr. H. C. Allen: During the last year I had considerable correspondence with the graduate of an American Homœopathic college in regard to being a licensed practitioner in Great Britain. He resides in London; he holds the degree of Hahnemann of Philadelphia; he can practice medicine there, but he cannot collect his bills by law; he cannot write a death certificate; he cannot give evidence in a court of justice. He has tried to free himself from this difficulty. Now the law of the Royal College of Physicians and Surgeons requires a reciprocity. They accept or recognize the medical laws of any other country that recognizes the English law. If we will allow a graduate of an English college after he has received his license from the Royal College to practice here, they will do the same for us, and I am happy to say that we have taken the true step in the direction of this same recognition, first by asking for the passage of a law in the District of Columbia. The difficulty with the English people is this: that in the United States every state has a separate medical law; in Great Britain they all come under one law.

Dr. Custis moved that the report of the Committee on Medical Legislation be referred to the Committee on Resolutions, with a view to having the case taken up by that committee.

Being duly seconded, the report is so referred.

Dr. Fisher offered a resolution that the regular business meetings of this Institute be held at 12 o'clock, noon, Sundays excepted. Referred to the Commitee on Resolutions.

The President appointed Dr. J. H. McClelland member of the Committee on Legislation for five years, *vice* Dr. Higbee, whose term has expired.

The President appointed the following additional members of the Committee on Resolutions, there being no quorum present: Dr. J. S. Mitchell, chairman; Dr. Delamater, of Chicago; Dr. Middleton, of Philadelphia, and Dr. Wood, of Cleveland.

At this point the Institute adjourned.

SECOND DAY—AFTERNOON SESSION.

THURSDAY, June 18, 1896.

At half-past two o'clock the President introduced Dr. Richard N. Foster, of Chicago, to the Institute, who thereupon proceeded to read the first of the Centennial Addresses, entitled "The Logical Basis of the Law of Similars: Does it Commend itself to our Reason?"

(This address will be found with the others at the close of the General Sessions.)

On motion of Dr. F. Parke Lewis, the By-Laws were suspended in order to pass the following resolutions:

Resolved, That in his lucid, logical, and comprehensive address, Dr. R. N. Foster has expressed the sentiment of the Homœopathic profession of the United States, as represented by the American Institute of Homœopathy here assembled.

Resolved, That we tender to Dr. Foster the thanks of the Institute for his able contribution to scientific therapeutics.

Resolved, That as far as may be practicable, we have published through the daily press and in pamphlet form, at the discretion of the Executive Committee, four thousand copies of the address entitled "The Logical Basis of the Law of Similars: Does it Commend Itself to our Reason?" to be disposed of to such members of the Institute or others who desire to obtain them for general distribution, at the cost of publication.

By-Laws suspended, and resolutions adopted.

The Institute then adjourned.

SECOND DAY—EVENING SESSION.

At eight o'clock, in Harmonie Hall, President Dudley called the Institute to order, to receive the official welcome of the Governor of Michigan. At this time there were upon the platform besides

the President, Drs. T. F. Allen, T. Y. Kinne, C. E. Fisher, O. S. Runnels, A. C. Cowperthwaite, D. H. Beckwith, B. W. James, H. L. Chase, H. M. Smith, J. H. McClelland, E. H. Porter, D. A. MacLachlan, J. S. Mitchell, and one or two others.

Dr. MacLachlan, the Vice-President, took the floor, and said: I feel to-night very much like the Irishman who at his wife's funeral was asked to ride with his mother-in-law in the procession; he said, of course, if he had to do it, he supposed there was no help for it, but it would spoil the pleasure of the whole occasion for him. This is about the way I feel. Nearly all the pages of history are marked by great epochs. Nearly all these epochs have been ushered in by revolutions which had been ushered in by strife, dissension, and the destruction of existing things. We are come here to-night to celebrate the centennial year of a great epoch, which has, however, demolished no temples or churches, which has destroyed no palaces, no homes, nor works of art; which has broken no hearts nor sacrificed human lives—on the contrary, it has saved human lives, and prevented human woe by displacing former irrational or dangerous methods of medicine, by rational and safe medication. This epoch was foreshadowed by the birth of a baby boy in the humble home of a porcelain painter in Meissen, Saxony, 1755. As the boy grew he manifested a wonderful aptitude for learning, and in spite of the fact that his father opposed his receiving a university education, he managed to indulge his passion for study, first by the aid of his teacher, and later by translating works from one language to another; for, at the early age of twenty years, he was master of four or five modern languages as well as Latin and Greek, and later became master of several Asiatic tongues. He was also a chemist; he became surgeon-in-chief of the hospital at Dresden; was a member of the faculty at Leipsic; superintendent of the Insane Asylum, and Councillor of State. In 1796 he announced his doctrine of the law of similars, and from that time he became a martyr to the persecutions of his former friends, or the friends of traditional medicine. In 1843 the originator of this epoch died. During the last fifty years of his life, his doctrines had been formulated and rooted in the old world, and had found a permanent foothold in the new. From the lifeless trunk which had been planted on our shores there sprang various sprouts, which became a giant tree that has in many ways supplanted the old form of medical tree. This new system of medicine now numbers its adherents by the thousands in practice and by the millions in patients. In 1844 the American Institute of Homœopathy was organized, with such men as Hering, of Philadelphia, and Hallock, of New York, and Wesselhoeft and Payne, of Boston, comprising its charter members. It is interesting for us, perhaps, to compare the status of the Institute and its friends at that time with that of the present. At that time there were perhaps, not more than one hundred practitioners in this country; to-day there are fifteen thousand and

over, with six or seven millions of patrons. At that time, almost the only literature of the school was composed of the *Materia Medica Pura* of Hahnemann; to-day our literature is so voluminous that the great difficulty resting upon any one is to make a selection. We have thirty-three journals in this country, with many minor publications. At that time we had no college; a few years later, in 1848, the Homœopathic College of Pennsylvania was organized, and one year later the Cleveland Homœopathic Hospital College, which numbers so many graduates in the western portion of this country; to-day we have twenty colleges with twenty-eight hundred and more graduates; to-day we have over four hundred institutions of various sorts, hospitals, dispensaries, etc. We have over two hundred societies in this country, national, state, and otherwise; and altogether, it seems to prove that truth crushed to earth will rise again.

Very much to our regret, the Local Committee has received from his Excellency the Governor of this state, who was expected to address you this evening, a letter stating that he cannot be present; that he finds himself in the northern peninsula of Michigan, and cannot be here. He has sent a letter which I will ask the Secretary of the Institute to read to you.

Dr. Porter read as follows:

ELBA, MICH., June 18, 1896.

To the Secretary of the American Institute of Homœopathy, Detroit, Mich.

My dear Sir: I sincerely regret that the welcome to the members of your Society from other states must be made at long range, but circumstances seem to make such a course necessary. But I wish to assure you that the welcome is none the less candid and sincere. You have done an inconceivable amount of good to suffering humanity in the past, and promise much more in the time to come. It is for the reason that you bring healing and relief to the afflicted that makes you especially welcome. In bettering the condition of the afflicted you add much to the aggregate happiness of mankind. It is hoped that your meeting may not only be profitable for the purpose for which you have gathered, but that your stay in our state may be such, that each of you may feel that it is good to be here. Again extending you a welcome that I should be pleased to extend each of you personally,

I remain yours truly,
JOHN T. RICH.

At the conclusion of the reading, a number of vocal selections were rendered by the Euterpe Quartette; after which President Pemberton Dudley presented the Hahnemannian Oration.

(This oration may be found with the Centennial Addresses at the close of General Sessions.)

Dr. MacLachlan said that he hoped the Institute would have the

pleasure of reading this scholarly address at a later day, and also that it might be reproduced independent of the TRANSACTIONS, and sent broadcast to the members of the Homœopathic profession.

Owing to the lateness of the hour, the Hahnemann Monument Committee made only a progressive report, promising to finish at a later date. Adjourned.

THIRD DAY—MORNING SESSION.

FRIDAY, June 19, 1896.

The usual difficulty was experienced in calling the Institute to order, there not being over a dozen persons in the hall. After waiting a few moments, the President permitted Dr. Cowperthwaite to read a number of names for the second time, and upon motion, duly seconded, these applicants were declared duly elected. Dr. Cowperthwaite also read three new names of applicants for membership, which were ordered to take the usual course.

The President then called, but unsuccessfully, for the Auditing Committee; Committee on Materia Medica Conference; Necrologist; Registration, Organization and Statistics; Medical Literature. When the Committee on Foreign Correspondence was called, Dr. George B. Peck responded and presented the following report:

REPORT OF THE COMMITTEE ON FOREIGN CORRESPONDENCE.

To the American Institute of Homœopathy:

Doctors: It is a notorious fact that the Old, or Allopathic, School of Medicine invariably resorts to statistics for the establishment of the excellency of each and every new device for the relief of its own sick and maimed. Can any valid reason then exist why the New, or Homœopathic, School should refrain from employing the same method to demonstrate its superiority to each and every competitor for public confidence? That, indeed, figures may be made to *prove* (?) anything, the regular medical literature of the past quarter century clearly indicates, yet He who spake as never man speaks, declares, "By their *fruits* ye shall know them." This principle illustrated by Himself from the vegetable kingdom is no less applicable to the physical nature of man than to the spiritual. The clinical test, therefore, is the ultimate and the supreme test of every alleged progressive step in the art of healing. That its application should be hedged about with every conceivable barrier against the admission of error none will deny, but that official position or professional prestige are to be rated as such, is absurdly preposterous.

Your committee, entirely unfamiliar with the duties to which it had been assigned, after waiting and seeking, evidently now unduly long, for instructions from its superior officers, or for suggestions from those qualified by experience to advise, determined that in this, the centennial year of Homœopathy, it could render no more efficient service to the cause than by collecting from each and every clime where its beneficial influence had been directly experienced, such testimony as each might afford, and emblazon it where every scholar and every thinker could find it available for instant use. To this end letters were addressed to each corresponding and each honorary member, as well as active members residing in foreign countries, soliciting such proof as might be in the hands of, or of easy access to each, that all quarters of the globe might be united in the construction of a massive and an indestructible tribute to the memory of Hahnemann. The illness of illustrious associates, distance, the brevity of time, and especially the neglect of those in charge of our public institutions, home and foreign, to preserve and to publish records of their work, have occasioned almost complete failure. Still our labor has not been altogether in vain, for some striking statistics have been furnished by Dr. Theodore Kafka, of Carlsbad, Bohemia, as well as by certain institutions in our own land. Moreover, reports hitherto unpublished and brought down to date, have been promised from England, Russia and India. These will undoubtedly come to hand at an early day. Furthermore, other indications of the advance of Homœopathy, rarely mentioned, but often conceded by the rival school, should be definitely recorded at this epoch. While, therefore, your committee presents the more valuable facts in its possession in an accompanying paper entitled "Statistics New and Old," it recommends that the committee for the ensuing year be instructed to complete the work already commenced in addition to any it may see fit to inaugurate. A brief sketch of the progress of Homœopathy in Denmark, by Dr. Oscar Hansen, of Copenhagen, is also transmitted herewith.

Respectfully submitted,

GEORGE B. PECK.

HOMŒOPATHY IN DENMARK IN 1896. BY OSCAR HANSEN, M.D., COPENHAGEN.

Since Homœopathy is celebrating this year its centenary, I deem it suitable to mention the sudden progress it has made here, after being for a long time at a standstill. Statements on the condition of the art in Denmark, from its introduction in 1821 until 1895, inclusive, may be found in the Transactions of the congress at Baselin, 1886, of the congress at Atlantic City, in 1891, and of the forthcoming congress at London this year. In January, 1896, I published in the *Homœopathic Monthly Review* an article entitled "Homœopathy in its First Hundred Years," describing its propagation in Europe as well as in other parts of the world, and men-

tioning the number of Homœopathic practitioners, colleges, hospitals, polyclinics and societies. Copies of this were sent to most of the Danish newspapers, in many of which copious extracts were printed. It has thus attracted the attention of several young physicians, and, as we are expecting to have a Homœopathic hospital in Copenhagen shortly, it will be a good thing to have some more practitioners. Most of the papers gave the subject an impartial presentation, but in one an attack appeared so very bad that it was deemed unworthy a reply. It was quite another matter fourteen years ago, when the paper *Fadrelandet*, since discontinued, in January, 1882, contained an exceedingly offensive and malignant attack, and Dr. Siemsen made an energetic and decisive reply.

Besides the *Homœopathic Monthly Review*, which has been issued twenty two years, and edited by myself since 1876, we have a new organ, the *Homœopathic Review*, edited by Dr. Orum, in Aarhuus, Jutland, and published every two weeks. While the monthly is devoted chiefly to original scientific articles, including clinical reports, though containing also numerous translations from foreign Homœopathic reviews, the fortnightly is more controversial, many of its editorials being models of aggressive warfare. In this magazine a physician from the country (Seeland) has recently published a very calm and respectful attack upon certain points in Homœopathy, but it looks as if he had a regard for his antagonists, and may perhaps be won for the cause. Though early in the year, several important events have occurred, all promotive of the cause in our little but beautiful Denmark, where progress is generally slow, though influenced considerably by that in the large countries. The population in general is favorably disposed. In Copenhagen there are five Homœopathic practitioners, and in Jutland two.

On motion of Dr. Kinyon, duly seconded, the report was received and accepted, with the recommendation that the work begun by this committee be continued by the succeeding committee.

Dr. T. F. Allen, chairman of the Materia Medica Conference, being now prepared to make his report, presented the following:

Report of the Materia Medica Conference.

The Committee on the Materia Medica Conference organized by the appointment of Dr. W. A. Dewey, of New York, Secretary. Arrangements were made as expeditiously as possible for the conference, and at many meetings the subjects to be discussed were carefully considered. It was the sense of the committee, unanimously, that in order to enter upon the work of reconstructing our Materia Medica, its underlying principles should be fully considered and reaffirmed. The first duty is, to establish our continued confidence in the law of similars as the first essential principle upon which the application of a Materia Medica to Homœopathic therapeutics rests.

First Topic.—"Has the Law of Similars Ever Been Unequivocally Demonstrated by the Deductions from General Practice, and Do We not Require its More Formal Proof by Inductive, Experimental Research?"

Essayist, Conrad Wesselhoeft, M.D., Boston, Mass.

Discussions by Martin Deschere, M.D., New York; Chas. Mohr, M.D., Philadelphia.

General discussions of five minutes each, by Chas. W. Eaton, M.D., Des Moines, Ia.; C. F. Menninger, M.D., Topeka, Kan.; Chas. H. Evans, M.D., Chicago, Ill.; B. F. Bailey, M.D., Lincoln, Neb.; P. S. Duff, M.D., Great Belt, Pa.; Robert Walter, M.D., Walter's Park, Pa.; W. B. Hinsdale, M.D., Ann Arbor, Mich.; A. C. Cowperthwaite, M.D., Chicago, Ill.; T. C. Duncan, M.D., Chicago, Ill.

The first session of the conference was held Tuesday June 16, at 3 P.M. It was opened by some remarks by the chairman of your committee, after which the first topic was presented by Dr. Conrad Wesselhoeft, and discussed according to the program decided upon, which permitted thirty minutes to the essayist, fifteen minutes to each of the four debators, and five minutes to those members of this Institute who had previously signified their desire to take part in the discussions, after which the remainder of the time was occupied by an instructive and interesting debate participated in by those present.

The *second topic* selected as next in order to be considered by a materia medica conference, was as follows:

"In What Particulars have the Provings of Drugs Deviated from the Rules Laid Down by Hahnemann in the *Organon*, and In What Particulars Do Hahnemann's Rules and Directions for Proving Drugs Differ From or Fall Short of Those Required by the Methods and Precautions of Modern Scientific Research?" and was presented by the following selected and approved debators:

Introductory remarks, T. F. Allen, M.D, New York. Essayist, Eldridge C. Price, M.D., Baltimore, Md. Discussions by M. W. Van Denburg, M.D., Fort Edward, N. Y.; Conrad Wesselhoeft, M.D., Boston, Mass.; George Royal, M.D., Des Moines, Iowa.

General discussions of five minutes each, by Pemberton Dudley, M.D., Philadelphia, Pa.; Martin Deschere, M.D., New York; Charles Gatchell, M.D., Chicago, Ill.; H. W. Pierson, M.D., Chicago, Ill.; H. C. Allen, M.D., Chicago, Ill.; A. C. Cowperthwaite, M.D., Chicago, Ill.; H. P. Holmes, M.D., Omaha, Neb.; Bushrod W. James, M.D., Philadelphia, Pa. After which a free discussion occurred.

The *third topic* selected as of vital importance in the preparation of a materia medica was "In the Search for the Similimum, Shall We Endorse Section 18 of the *Organon*, Which Says that the Totality of the Symptoms Must be the Sole Indication to Direct Us in the Choice of a Remedy?"

Essayist, William Boericke, M.D., San Francisco, Cal. Read by Dr. T. Y. Kinne. Discussions by H. C. Allen, M.D., Chicago, Ill.; W. J. Hawkes, M.D., Chicago, Ill.; J. D. Buck, M.D., Cincinnati, Ohio.

General discussions of five minutes each, by J. B. G. Custis, M.D , Washington, D.C.; E. R. Snader, M.D., Philadelphia, Pa.; H. W. Pierson, M.D., Chicago, Ill,; T. P. Wilson, M.D., Cleveland, O.; A. P. Hanchett, M.D., Council Bluffs, Ia.; A. L. Monroe, M.D., Louisville, Ky.; William Owens, M.D., Cincinnati, O.; J. L. Hanchett, M.D., Sioux City, Ia.; T. F. Allen, M.D., New York City. After which the accompanying resolutions were adopted and the conference finally adjourned.

The introductory remarks by the chairman, the essays and the written speeches are presented herewith, or rather will form a part of this report when the stenographic notes shall have been submitted to the Secretary and revised by him and the chairman jointly.

Your committee has been able to make only a report of progress in this important and interesting subject. The resolutions passed by the conference seem to establish the confidence of that body as to the fundamental basis of a materia medica; it also clearly recognizes the necessity of extended work confirmatory of previous experiments and recommends the revision of Hahnemann's rules for making future provings. Your committee and the members of the conference feel that many similar conferences will be required to consider and formulate additional rules or principles which must be followed in our vast undertaking. During the active sessions of this committee, the following resolutions were offered; Dr. T. Y. Kinne proposed:

Resolved, That *Similia Similibus Curentur* has been proved scientifically to be the law of therapeutics and has been demonstrated to be successful in application. Adopted unanimously.

Offered by Dr. Lamson Allen:

Resolved, That this Materia Medica Conference recommend to the American Institute of Homœopathy that it instruct its Materia Medica Committee to carefully prepare an accurate and scientific plan by which future provings of drugs may be conducted. Seconded by C. E. Fisher, M.D. Adopted.

The following resolution was offered by Dr. Conrad Wesselhoeft, and was adopted:

Resolved, That it is the desire of this Institute that hospitals of all schools furnish accurate statistical information for a comparison of the value of different methods of therapeutic practice; and be it further

Resolved, That this is the best method of deciding matters of dispute between the schools as well as between the different practice within schools and that, for this purpose, our hospitals, as well as those of the older schools, shall be appealed to, to carry out the purpose of these resolutions.

Dr. C. E. Fisher offered the following, which were adopted *seriatim:*

Resolved, That as attendants upon and participants in the Materia Medica Conference, held under the auspices of the American Institute of Homœopathy, we express our appreciation of the work of the Conference Committee and our gratification that the movement

set on foot for materia medica improvement has awakened so great interest and has been productive of such generally satisfactory papers and discussions.

2. *Resolved*, That we join the committee in the desire that these conferences be continued from year to year as long as may be deemed necessary by the Institute.

3. *Resolved*, That we recommend that one-third of the members of the Conference Committee be retired from service each year, and that the places of those retired be filled by members selected from the membership of the Institute by its Executive Committee; and be it further

4. *Resolved*, That we recommend that the Conference Committee be requested to select all the disputants from year to year who are to engage in the discussions of the propositions submitted, disputation by volunteer speakers to be limited to purely extemporaneous remarks, the appointed disputants to be limited to six in number and to be allowed ten minutes each.

At the conclusion of the reading, Dr. Allen continued to speak for several moments, going over much of the work of the conference. Continuing he said, substantially:

You have been dissatisfied with the two kinds of materia medica which have been at your command. Neither of these seem to meet fully the wishes and principal end of the public or of the members of this Institute. Your committee wants to find out why they do not; in what respect have they failed? We have not as yet been able to reach this exact point in the discussion. No one is more clear upon this point than your President. At the meeting in New York—for we must begin at the beginning if we want to get at the right state of affairs—it was decided to investigate the materia medica from a Homœopathic standpoint. Do we believe in Homœopathy? I am free to confess that in ten years, I have not heard so much Homœopathy as I have heard at this session of the Institute. Does this Institute really want to go on in the work already begun? A materia medica for the purposes of Homœopathic therapeutics is one thing; and a materia medica for the purposes of heteropathic practice is something entirely different. And that subject has yet to be more discussed than it has been. We do not know yet what to construct. We have only made a beginning. If we find the necessity of palliating by antipathic methods, by temporary expedients of electricity, or massage, or antipyretics, you will want a different sort of materia medica. Then again there is another point. The materia medica that has been issued under the authority of the American Institute of Homœopathy has so far omitted symptoms that have been produced by the provers from 30 to 50 per cent.; this is true in the *Cyclopædia of Drug Pathogenesy*. You don't want that materia medica. You don't buy it, nor do you use it; and yet that was in direct line with the wishes of the Institute

which required that these symptoms should be weeded out; they were said to be trivial, they were what might almost be said to be nonsensical. And the editors of that work have seen fit to omit those symptoms, taking their own judgment as to what they thought was nonsensical and of no avail; the consequence is that we have a materia medica that cannot be used by 50 per cent. of this Institute. There is a large proportion of this Institute that does not wish to have omitted, symptoms that may to others seem trivial. They wish to use their own judgment in this matter. A symptom that seems trivial to one may not seem so to another. If you are not satisfied with the weeded out and emasculated materia medica, what are you going to do? The gentlemen of Baltimore are making provings and giving us symptoms which only occur in a number of individuals uniformly. That seems to us un-Hahnemannian and has no place in the practice of Homœopathy. I want to understand clearly what must be done in this matter. There is no one of us that is satisfied with any materia medica that we have. I think the speaker is as dissatisfied as any one of you, and he will do all he can to help out in this matter. The questions therefore are, first, Do we want a materia medica which is for Homœopathy only and truly: second, What as to the kind of symptoms we are to omit and admit? The conference has decided that our provings have been made in great part upon erroneous basis; that we admit, and I have therefore offered a resolution looking to the correcting of that point. The committee have felt that it was all important to know what symptoms we are to admit, and what to omit. If we follow Hahnemann's rules that the totality of the symptoms determine the choice of the remedy, we must make a materia medica of symptoms. If we choose to ignore that principle of Hahnemann, we must make a materia medica which is more pathological than symptomatological.

Dr. A. C. Cowperthwaite moved that the report of the Committee on Materia Medica Conference be received, and that the resolutions be taken up *seriatim* for adoption or rejection. Seconded.

Dr. Kinne wanted to know if these resolutions come under the ruling regarding general resolutions; if so, they must take the usual course.

Dr. Dudley: They do not. I will rule that a set of resolutions coming from a committee, do not come under the rule for reference to the Standing Committee on Resolutions.

Dr. Allen: This report is a report of the Conference Committee, and these resolutions are a part of the recommendations of that committee for your adoption or rejection. It is a question of the adoption of the report, and the resolutions must be considered with it.

Motion of Dr. Cowperthwaite put to the Institute and carried.

At this point General Secretary Porter called the special order, which consisted in reading the nomination tickets for the election of officers to serve, if elected, for the year beginning January 1, 1897. The form of these nomination tickets is as follows:

American Institute of Homœopathy.

Detroit, Mich., 1896.

NOMINATION PAPER.*

We, the undersigned, members in good standing of the American Institute of Homœopathy, do hereby nominate.....M.D., of..... for the office of.....of the Institute for the term beginning January 1, 1897.

The following are the names, with the offices for which they were nominated:

For President.—J. B. G. Custis and D. A. MacLachlan.

For Vice-Presidents.—C. E. Walton, Ch. Gatchell, Julia Holmes Smith, Phil. S. Middleton, and C. C. Miller.

For General Secretary.—Eugene H. Porter.

For Treasurer.—E. M. Kellogg.

For Censor, for five years.—A. C. Cowperthwaite.

For Registrar.—H. L. Aldrich.

The offices of Recording Secretary and Assistant Treasurer were not put in nomination.

It was moved that the nominations having now closed, that the ballot box be put in charge of a committee of three, consisting of Drs. Swormstedt, Millie J. Chapman, and Anderson. Carried.

The report of the Committee on Materia Medica Conference was resumed. The resolutions were now taken up *seriatim*.

I. *Resolved*, That *Similia Similibus Curentur* has been proved scientifically to be the law of therapeutics and has been demonstrated to be successful in application.

Adopted.

II. *Resolved*, That the materia medica conference recommend to

* No endorser's name must appear on more than one paper for any one office. Nominations must receive the endorsement of ten members.

These papers must be given to the Secretary on the third day of the session, at 10 A.M., and then will be at once delivered to a special committee, as provided in Article IX., Section 7.

the American Institute of Homœopathy that it instruct its Committee on Materia Medica Conference to prepare an accurate and scientific plan by which future provings of drugs may be conducted.

Its adoption moved and seconded. Adopted.

III. *Resolved*, That it is the desire of this Institute that hospitals of all schools furnish accurate statistical information for a comparison of the value of different methods of therapeutic practice; and be it further

Resolved, That this is the best method of deciding matters of dispute between the schools as well as between the different practice within the schools, and that, for this purpose, our hospitals, as well as those of the older schools, shall be appealed to, to carry out the purpose of these resolutions.

Dr. Cowperthwaite objected to this resolution at this time: I do not believe it is in good policy and good taste. I do not believe it will result in any benefit to us, primarily, on account of the many difficulties that will hedge us in, in attempting to officially accept any results as to what has been done in the hospitals as they are managed in this country. It is not yet time. In many hospitals it would be almost impossible to get the data.

Dr. Kinne: I want to say a few words in the absence of Dr. Wesselhoeft, who is the father of that resolution. I was in touch with him in making and offering this resolution. He said while it may be well nigh an impossibility to obtain what we should so much like to get, yet that is no reason why we should not make an effort. It shows simply upon our part not only a willingness but an anxiety that the two systems of practice shall be put into juxtaposition, and the world at large know which is the best system for the healing of the sick. Those, in the main, are the reasons why Dr. Wesselhoeft offered this resolution. He agreed with me that at this time it might be impossible for us to make use of these results; also that the others might make use of them to our disadvantage; and yet I submit in his name to you whether or not we have any fear of being put at any disadvantage by a proper bringing together of the two systems of medicine. But whether it was or not it would be right, and for that reason, if for no other, we ought to take the step. If we are practicing a wrong, then the sooner we are brought face to face with it and shown our error the better it will be. It is right; it is just; it is best for us. We throw down the gage of battle and say take it up if you dare. We will see if they will do it. Those are Dr. Wesselhoeft's remarks.

Dr. Parke Lewis: The statistics, not so much of our own school

but of the other systems, are kept very inaccurately. But the fact that we, as the American Institute of Homœopathy, ask the hospitals of our school will doubtless make them more careful and accurate. It is going to be an advantage to every hospital and college.

The motion, being put to vote, was carried.

The fourth resolution:

IV. *Resolved*, That as attendants upon and participants in the Materia Medica Conference, held under the auspices of the American Institute of Homœopathy, we express our appreciation of the work of the Conference Committee and our gratification that the movement set on foot for materia medica improvement has awakened so great an interest and has been productive of such generally satisfactory papers and discussion.

Moved and seconded that it be adopted. So ordered.

2. *Resolved*, That we join the committee in the desire that these conferences be continued from year to year as long as may be deemed necessary by the Institute.

Moved and seconded that it be adopted. So ordered.

3. *Resolved*, That we recommend that one-third of the members of the Conference Committee be retired from service each year, and that the places of those retired be filled by new members selected from the membership of the Institute by its Executive Committee.

Dr. Kinne: I would move to amend by striking out that word "new."

Dr. T. F. Allen: It is the opinion of the committee—certainly of its chairman—that the committee appointed last year has made its final report, and that such a committee for next year does not exist—not any individual of it. We have ended our work; our term expires and the committee disappears. You must appoint a new committee for next year.

Dr. Delamater moved, as a substitute, that a committee be appointed this year—one-third for one year, one-third for two years and one-third for three years.

Seconded.

Dr. Fisher: The foregoing resolutions provide for the continuance of this work, and therefore this committee is not discharged. If this Institute adopts these resolutions it so provides. This committee is not discharged.

The President: The action of this Institute last year, as shown in the TRANSACTIONS, in the report of the Centennial Committee, was: "We therefore recommend that there be appointed at this session a large committee of those interested in the materia medica, including several of our homœopathic specialists, to provide for the consideration and discussion of questions pertaining to the construction of a scientific materia medica, and to call and arrange for a materia medica conference in connection with the next session of this Institute, the conference to continue one or more days (as may be found necessary), and to adjourn finally before the opening of the Institute session. The committee to report its papers and discussions to the Institute for its action. We also recommend that similar conferences should be held, under the auspices of the Institute, from year to year, until we arrive at definite plans and methods for placing the materia medica upon a strictly scientific basis." I shall rule that the committee goes out of existence.

Dr. Kinne raised the point of order that it is not the constitution of the committee which is in dispute, but that clause only having reference to its reappointment, or rather for the appointment of a new committee. I ask that the word "fifteen" be inserted in Dr. Delamater's resolution. Thus amended, Dr. Delamater's substitute was adopted. So that the original third resolution of Dr. Fisher was destroyed and the substitute of Dr. Delamater took its place.

This substitute, as amended, read as follows:

Resolved, That a committee of fifteen be appointed this year—one-third to serve for one year, one-third for two years and one-third for three years.

The concluding resolution, reading as follows, was then presented:

4. *Resolved*, That we recommend that the Conference Committee be requested to select all the disputants, from year to year, who are to engage in the discussions of the propositions submitted, disputation by volunteer speakers to be limited to purely extemporaneous remarks, the appointed disputants to be limited to six in number and to be allowed ten minutes each.

After some little debate, on motion of Dr. B. W. James the resolution was laid upon the table.

The report of the Materia Medica Conference as amended was then voted upon as a whole and adopted.

The President appointed Dr. O. S. Runnels as chairman of the Committee on Resolutions for 1897.

Dr. H. C. Allen presented the following resolution:

Resolved, That a paper not to exceed thirty minutes' time be read by a member of the Materia Medica Section on some subject from the *Organon*.

Dr. Kinne moved that it be received and referred to the Committee on Resolutions.

At this time the Institute adjourned.

THIRD DAY—AFTERNOON SESSION.

At half past two o'clock the second of the centennial addresses was delivered to the Institute in Harmonie Hall by Dr. M. W. Van Denburg, on "The Experimental Demonstration of the Law of Similars: Can its Existence and Operation be Proved?" (This address may be found with the others at the close of General Sessions.)

At the conclusion of this able address the Institute adjourned until the next day at 9.30 o'clock.

This evening was set apart by the local committee of arrangements for the reception and entertainment of the American Institute and its friends and guests. Harmonie Hall was cleared of its chairs, and with musical accompaniments the Institute enjoyed itself in dancing and otherwise passing the evening with its hosts.

FOURTH DAY—MORNING SESSION.

SATURDAY, June 20, 1896.

The Institute was called to order promptly at 9.30, A.M.

Dr. A. B. Norton moved that the report on the President's address be now received. Seconded.

Dr. Porter rose to a question of privilege, and read the declination of Dr. MacLachlan for the office of President of the Institute.

The Committee on President's Address being then ready to make its report, Dr. Norton presented the following:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The committee appointed to consider the President's address would respectfully submit that its liberal spirit and practical suggestions merit and will doubtless receive the hearty commendation of the Institute.

It recommends in accordance with its provisions—

1st. That a committee of five be appointed by the President at the commencement of each session to consider the question of the "selection of the place of meeting."

2d. That the Institute recommend to the Inter-Collegiate Committee that such steps be taken, as in its judgment are wise, to have all the graduates of our Homœopathic Medical College urged early in their professional life to become members of the Institute.

3d. The committee would advise the adoption of the resolution contained in the address in order to carry out the spirit of the Code of Ethics (Part II., Article I., Sections 3 and 4). We recommend that all members of the Institute should carefully avoid written endorsements:

1. Of any medicinal agent, the right and knowledge of whose preparation is not the common property of the medical profession.

2. Of any medicinal agent known or designated by the name of any individual or manufacturing firm.

3. Of any medicinal agent known or designated by its real or alleged therapeutic property.

The committee would advise, also, the adoption of the following resolution:

Resolved, That after the Session of 1897, all graduates of medical schools in which Homœopathy is not taught shall not be eligible to admission as members unless they shall present satisfactory evidence that they have been actually engaged in the practice of Homœopathy for at least one year.

Signed: J. S. MITCHELL, *Chairman.*
OSCAR LESEURE,
A. B. NORTON,
W. W. VAN BAUN,
W. H. HANCHETT.

On motion of Dr. Runnels the report was received, and on further motion by Dr. B. W. James, the recommendations were taken up *seriatim.*

The first resolution had reference to the Committee on the Selection of the Place of Meeting, and was amended by Dr. Runnels to read, that a committee of five be appointed by the President at the commencement of each session to consider the question of the selection of the place of meeting "and report to the session at the very earliest opportunity."

The second and third resolutions were adopted without change.

The closing recommendation of the report having reference to the eligibility of members from colleges which do not teach Homœopathy, etc., failed of adoption.

The whole report as amended was then adopted.

Dr. F. Parke Lewis moved the following:

Resolved, That a committee of five be appointed by the chair to determine whether the present method of holding the sessions of the Institute is productive of the best results attainable. Seconded.

Referred to Committee on Resolutions.

This resolution was reported finally and adopted by the Institute.

The President appointed the following committee:

F. Parke Lewis, M.D., chairman; E. H. Porter, M.D.; C. B. Kinyon, M.D.; Rachel J. Davidson, M.D.; and E. C. Morrill, M.D.

Dr. B. F. Bailey presented a resolution referring to the future sessions of the Institute, which was referred to the Committee on Resolutions.

Dr. King read the report of the Auditing Committee, which has already been noted.

The report of the Committee on Organization, Registration and Statistics reported through Dr. Talbot a partial report, which was accepted, with permission to elaborate later and in time for the publication in the TRANSACTIONS.

REPORT OF THE COMMITTEE ON ORGANIZATION, REGISTRATION AND STATISTICS.

Mr. President and Gentlemen:

The unavoidable absence of the chairman of this committee seriously interferes with the completeness of this report. A large number of the associations represented have as yet failed to send in the desired report, and not a few of these require several requests before they do what would seem to be an obvious duty. The past year shows a decided progress in the number of Homœopathic institutions, which number 431 in place of 417 last year. This Institute, which is the largest Homœopathic body of physicians in the world, numbers 1616 members. There are of national associations, 8; of sectional, 1; of state societies, 33; local societies, 86; clubs, 35; alumni associations, 7; miscellaneous societies, 3; general hospitals, 65; special hospitals, 72; dispensaries, 69; journals, 32; and colleges, 20.

In the report of the Interstate Society Committee, which will be given later, more details of the condition and progress of these societies will be furnished, while in that of the Intercollegiate Com-

mittee the statistics of the colleges will be more fully given. When this committee first began its reports of the institutions in the United States under Homœopathic control, it was very difficult to obtain the exact facts about any considerable number of these; in fact, there were very few of them that kept any continued statistics; but the yearly demand made by this Institute for such statistics has, in a great many instances, induced them to keep a careful record of their work; and the publication of it yearly in the TRANSACTIONS of this Institute has been the means of stimulating the founding and proper sustaining of important institutions which otherwise would have had a doubtful or an unknown existence. Moreover, perhaps, there has been nothing which has given greater courage to our friends, or been a more astounding argument to our opponents, who would gladly report that Homœopathy was fast dying out, than these continually increasing tables of statistics. They have been a thousand times more valuable to us than their cost, and it would be a serious loss to Homœopathy the world over if these statistics were to be discontinued.

The growing influence and power of this Institute might well be extended if we were to add to it corresponding members in all parts of the world to the number of at least one hundred, and your committee beg to propose the following vote for the consideration of the Institute.

Respectfully submitted,
I. T. TALBOT,
For the Committee.

Voted that the American Institute of Homœopathy authorizes the election of one hundred suitably distinguished Homœopathic physicians, residing in various countries outside of the United States, as corresponding members of this Institute.

The President shall appoint a committee of five, who shall carefully consider and report the names of suitable persons, and, when approved by the Executive Committee, they shall become corresponding members of the American Institute of Homœopathy, shall receive its various publications, and shall be expected to report to the Institute from time to time various matters of professional interest occurring in their several countries.

Dr. McClelland moved that the recommendations in that report be adopted. Seconded.

Dr. H. C. Allen objected to the same because of the expense of the extra numbers of the copies of the TRANSACTIONS which would need to be ordered for the use of these new members.

The President explained that the cost of the extra volumes is about 67 cents each.

The motion of Dr. McClelland prevailed.

The President appointed as a Committee to Recommend Foreign Physicians as Corresponding Members: I. T. Talbot, M.D., chairman; Drs. Martin Deschere, Frank Kraft, Henry M. Smith, Conrad Wesselhoeft.

The Committee on Medical Literature, with Dr. Roberts, chairman, reported as follows:

Report of Committee on Medical Literature.

Mr. President and Gentlemen:

Your committee has taken great pleasure in watching carefully the medical literature of the past year, and it is with satisfaction that we call attention to the general improvement both in the quality and quantity of this important branch of the work of our school.

The success and life of Homœopathy is dependent largely upon the general trend of our thought, and this is recorded in our text-books, journals and pamphlets. Our practical work finds its expression in hospital and dispensary reports, so numerous that we cannot even mention them by name, but can only say a few words of their general characteristics.

We believe that no year has produced as many valuable works upon medicine and surgery, the products of the Homœopathic pen, as has this centennial year of the birth of Homœopathy. It is unnecessary for us to inform the American Institute upon the quality of this work, but we feel that we would be doing our authors and publishers a great injustice did we not thus publicly commend them for their diligence and skill in preparing and publishing systematic treatises upon the various branches of our art and science, and in keeping at a high standard our periodicals. There can be no question of a general tendency towards a higher quality of medical literature upon all lines. Men are putting more thought upon their work, and are gaining a wider experience before they take the liberty of asking the profession to pause and listen to their words. And yet our society meetings are replete with papers. So many papers are offered the journals that the difficult question for their editors to decide is "What shall we do with them?" not "Where shall we get them?" as was the case only a few years ago. In further proof that this is true, we need only call attention to the establishment of at least four new journals, which we believe have not been mentioned in previous reports of this committee, and the general tendency of our journals seems to be towards an increase of the number of their pages. Of the five new journals which were mentioned in the last report of this committee, four are alive and flourishing—some of them flourishing beyond the hope of their projectors.

The quality of articles published in our various periodicals is steadily improving, and we are inclined to attribute the improve-

ment to two causes: First, undoubtedly, to progress and advancement in medical thought, with a tendency to place upon record only those ideas which shall stand for all time; and second, we believe that a further increase in the good appearance of our pages is due to the increasing freedom of our editors in their selection of articles for publication—this being dependent again upon the increasing amount of matter presented for their scrutiny. Just here, we wish to make a suggestion, and to be understood as doing so with all due deference to the editors' judgment, but stimulated by a desire to eliminate from print articles which lack either in practical or scientific value, and which are so constructed, from a rhetorical point of view, that they fail to reflect credit upon either the editor or the author.

We therefore suggest to our editors that they take more conscientious pains in deciding upon the acceptance or rejection of manuscript, feel more at liberty to return a poor article, returning it, of course, in a kindly spirit, and having accepted a good article, feel more at liberty to correct its rhetorical errors, and to suggest corrections of apparent scientific errors. Now that our numbers are so largely increased, and some of our pens seem to be so fluent, the editor may well stand somewhat upon his dignity, and thereby save the reader the loss of time and expense which always results from being obliged to sort the wheat from the chaff in periodical literature. The author of a rejected or corrected article should not consider this an affront, but rather a kindness, for who would not rather have his article returned, or even thrown in the waste-basket, if it is deserving of such treatment, than to have it printed and adversely criticized by a profession which is usually a wise critic?

We admit that this places upon the editor an increased responsibility, a responsibility also, which is capable of abuse; but we feel that the editorship of our journals is in the hands, without exception, of gentlemen who may be trusted to do this work in a most acceptable manner.

Returning to the perhaps more important department of literature—the production of standard medical works—the same improvement noted above is to be seen in the various volumes placed upon the market during the past year, with the majority of which you are so familiar that a mere mention of their names and authors is all that we need attempt. America, England, Germany, and other countries, have contributed to this work, and we are proud to say that America, on account possibly of its larger representation of Homœopathic physicians, and their greater enthusiasm in the work, has contributed by far the greatest share. Most of these books are worthy of unqualified commendation, and we hope that they are receiving the same in that most acceptable form (actual dollars and cents) at the hands of the profession. We, however, wish to call attention to a tendency, which we fear is a growing one, and that is, the issue of works upon important subjects too hurriedly. The quality of these works will stand before all scientific men as a criterion of our scientific attainment. It must not be forgotten that

a text-book, a work upon general medicine, or upon any of the specialties, ought to be the product of mature thought, deliberation, and experience. The struggle to place a book upon the market at an early day is indeed commendable, nevertheless, completeness and careful thought should not be sacrificed to this ambition, and we fear that some of our otherwise most excellent productions have in the past been damaged by this error.

We note with pleasure and satisfaction that some of our more recent hospital reports—of institutions private as well as those of a public character—have striven to rise above the sphere of mere tables of statistics, and have taken on a scientific and in some cases even an artistic character. This is certainly commendable and should be encouraged.

We welcome into the field of Homœopathic journalism the following new journals:

"The Medical Counsellor of Detroit," a monthly, edited by Dr. S. J. Knight and Dr. Harold Wilson.

"The Medical Era," Chicago, a monthly, edited by Ch. Gatchell, M.D. Last April Dr. Charles Gatchell resumed the publication of this old and well-known journal.

"The Journal of Materia Medica," Chicago, a monthly, edited by H. C. Allen, M.D., and W. J. Hawkes, M.D.

"Journal Belge d'Homoeopathie."

Besides a vast number of pamphlets, hospital reports, etc., there have appeared in various countries during the past year the following books:

AMERICAN.

General Medicine.

"Provings and Clinical Observations with High Potencies." By Malcolm MacFarlane, M.D., Philadelphia. Pp. 143. *Homœopathic Physician.* 1894.

"The Practice of Medicine." By William C. Goodno, M.D., Professor of Practice of Medicine in Hahnemann Medical College of Philadelphia, etc. With sections on "Diseases of the Nervous System," by Clarence Bartlett, M.D., Lecturer on Mental and Nervous Diseases in the Hahnemann Medical College of Philadelphia, etc. Two volumes. Illustrated. Philadelphia: Hahnemann Press. 1895. Price per volume, $6.00 to $8.00.

Such an exhaustive and valuable work as this should not be passed by without a word of special commendation, both for the authors and publishers. We look upon this work as the most valuable addition to Homœopathic literature which has been published within the past ten years, and we appreciate most highly our indebtedness to those interested in its production.

"The Chronic Diseases: Their Peculiar Nature and their Homœopathic Cure." By Samuel Hahnemann. Translated from the second enlarged German edition of 1835 by Professor Louis H. Tafel; with annotations by Richard Hughes, M.D. Edited by Pemberton

Dudley, M.D. Philadelphia: Boericke & Tafel. 1896. Price, $10.00. The need of this valuable translation has been felt for many years, and we welcome this recent production from the pens of Professors Hughes, Tafel and our honored President.

"The Practice of Medicine." A condensed manual for the busy practitioner. By Marvin A. Custis, M.D. Philadelphia: Boericke & Tafel. 1896.

Materia Medica.

"A Regional and Comparative Materia Medica." By John Gilmore Malcolm, M.D., and Oscar Burnham Moss, M.D. Chicago: Malcolm & Moss. 1895. Price, $6.00.

"A Repertory of Hering's Guiding Symptoms of our Materia Medica." By Calvin B. Kneer, M.D. Philadelphia: F. A. Davis Company. 1896. Pp. 1232.

Surgery.

"A Homœopathic Text-Book of Surgery." Edited by Charles E. Fisher, M.D., and T. L. MacDonald, M.D. Illustrated. Chicago: Medical Century Company, and Philadelphia: Boericke & Tafel. 1896. Price, $9.00 and $10.00.

The long list of well-known names appearing as authors of this voluminous work is a sufficient guarantee of its value, and while an extended review of its pages would be entirely out of place at this time, we cannot but congratulate them upon the production, after the conquest of many obstacles, of this valuable work.

Ophthalmology.

"Therapeutics of the Eye." By Charles C. Boyle, M.D., O. et A. Chir. New York: Boericke, Runyan & Ernesty. 1896.

Pædology.

"A Handbook on the Diseases of Children and their Homœopathic Treatment." A text-book for students, colleges and physicians. By Charles E. Fisher, M.D. Chicago: Medical Century Company. 1895.

Pathology.

"The Elements of Surgical Pathology, with Therapeutic Hints." By James G. Gilchrist, A.M., M.D. Minneapolis: Minneapolis Pharmacy Company. 1895.

Genito-Urinary Diseases.

"A Manual of Genito-Urinary and Venereal Diseases." By Bukk G. Carleton, M.D. New York: Boericke, Runyan & Ernesty. 1895. Pp. 315.

Neurology.

"A Manual of Nervous Diseases and their Homœopathic Treat-

ment." A compend for students, colleges and physicians. By Geo. F. Martin, M.D. Medical Century Company. 1896.

Electro-Therapeutics.

"A Manual of Electro-Therapeutics for Students and Practitioners." By C. T. Hood, A.M., M.D. Chicago: Gross & Delbridge Co. 1895. Pp. 181.

ENGLAND.

"Gout and its Cure," By J. Compton Burnett, M.D. Philadelphia: Boericke & Tafel. 1895.

"Delicate, Backward, Puny and Stunted Children." Their developmental defects and physical, mental and moral peculiarities, considered as ailments, amenable to treatment by medicine. By J. Compton Burnett, M.D. Philadelphia: Boericke & Tafel. 1896.

"Hahnemann's Defence of the Organon of Rational Medicine," and of his previous Homœopathic works, against the attacks of Professor Hecker, an explanatory commentary on the Homœopathic system. Translated by R. E. Dudgeon, M.D. Philadelphia: Boericke & Tafel. 1896.

GERMANY.

"Innere Heilkunst, bei Sogenannten Chirurgischen Krankheiten." By Dr. Med. et Chir. Carl Weiss. J. Koechers Buchhandlung. 1895. Pp. 200.

Respectfully submitted on behalf of the Committee.

G. W. ROBERTS,
Chairman.

The President announced the following as chairmen of the sections for the session of 1897:

Materia Medica: Martin Deschere, M.D., New York.

Clinical Medicine: W. H. Hanchett, M.D., Omaha, Neb.

Obstetrics: L. C. Grosvenor, M.D., Chicago.

Gynæcology: J. C. Wood, M.D., Cleveland.

Pædology: Allison Clokey, M.D., Louisville.

Sanitary Science: Bushrod W. James, M.D., Philadelphia.

Surgery: Thomas L. MacDonald, M.D., Washington.

Neurology: H. V. Halbert, M.D., Chicago.

O., O. and L.: Harold Wilson, M.D., Detroit.

The President stated at the conclusion of the reading that every one of these names represented hard work in the departments to which they have been assigned. No one of these men has held the chairmanship of the section to which he has been appointed, at any rate not within the ten years last past.

Dr. T. F. Allen, who had been re-appointed chairman of the new

Materia Medica Conference Committee, reported the following list of members of that committee (see list of committees):

The President appointed Dr. J. H. McClelland, of Pittsburg, chairman of the Hahnemann Monument Committee.

The Committee on Hahnemann Monument presented the following report:

REPORT OF THE COMMITTEE ON HAHNEMANN MONUMENT. BY J. H. MCCLELLAND, M.D., CHAIRMAN.

Mr. President:

It gives me pleasure to lay before you at this session of the American Institute of Homœopathy a statement of the grand project inaugurated at the meeting of the Institute in Washington, 1892. It was then resolved to erect at the national capital a monument to the honor of Samuel Hahnemann, the leader of the great reformation in medicine and founder of a new school of therapeutics. The work was confided to a committee of this Institute and immediately commended itself to the whole Homœopathic profession and people of this country. From time to time your committee has reported the rise and progress of this work; how it grew from a vague and somewhat indefinite idea to its present superb conception; how it groped about in search of a correct method of procedure, and finally by good advice and some management hit upon the very best way to secure the highest results. In a word, how by the advice and assistance of the National Sculpture Society a competition was had, leading to the submission of some twenty-five models by as many artists, home and foreign, and the unanimous selection by the Art Committee, in connection with the Monument Committee, of a design which has met the unanimous approval of this Institute as well as numerous art critics, who have made it a study.

Your committee now proposes to offer for your information a statement setting forth the present status of the monument and our plans for the future.

The Monument.

As to the monument itself, we are happy to report most satisfactory progress. The full size model of the statue in clay (the half-size of which is before you) is finally completed ready for the moulder, save that it still receives an occasional touch from the painstaking artist, who seems possessed with the feeling that it shall not leave his hands until perfection is finally attained. Recently a French artist in company with a Belgian of the same craft visited the studio of Niehaus to view this model of Hahnemann. After gazing intently at the models displayed, the Frenchman turned and impressively said to his companion: "This man is a master—he is the greatest American sculptor." It is the almost universal opinion that this will be the finest piece of art work at the National Capital.

Not only is this the opinion of artists and art connoisseurs, but

it is reported that at a meeting of the National Society of Army Surgeons, while discussing the proposed statue to Dr. Benjamin Rush, a medical officer of the government high in authority said: "If we can secure a monument for Benjamin Rush one-half as magnificent as that to be erected to Hahnemann we may all be proud of the achievement." A recent art journal, in speaking of the work of Niehaus, said: "If he had never done anything but the monument to Hahnemann his fame was secure."

Not only is the statue of Hahnemann sublimely impressive in its delineation of the scholar and philosopher, but the setting of the statue is superbly classical. The entablatures in bronze which set forth epochs in the life of Hahnemann are full of character and vigor. Altogether this Institute has the honor of presenting to our country a work of art which every contributor will be proud to be identified with.

The Financial Situation.

Your committee has felt impressed while it has been appealing for the means to complete the monument that the financial stringency of the time has been a great drawback to liberal contributions

It has felt, however, that American Homœopathists will be equal to the occasion. If sacrifice is necessary, professional patriotism will come to the front, and the committee will be furnished with means to complete the work given it to do.

In general terms it can be stated that about one-half the money has been subscribed. The report of the treasurer, which will be submitted at the business session in the morning, will give a detailed statement of receipts and expenditures.

Legislation.

It is probably known that certain legislation is necessary to be secured from Congress. Your committee has not neglected its duty in this regard, and our Washington member has been particularly attentive in looking after our interests.

This legislation involves the acceptance upon the part of the government of a great work of art and the granting of a site upon which the monument shall be erected. A bill was therefore introduced by Senator Gallinger in the shape of a joint resolution as follows:

"1. Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that permission be, and the same is hereby, granted the Hahnemann Monument Committee of the American Institute of Homœopathy to erect a monument in honor of Samuel Hahnemann in such place in the city of Washington, District of Columbia, as shall be designated by the officer in charge of the new library building, the Joint Committee on the Library and the chairman of the Monument Committee, other than in the Capitol grounds. And the sum of $4000, or

so much thereof as may be necessary, is hereby appropriated out of any money in the Treasury for the building of a foundation upon which to place said monument, to be presented to the people of the United States by the American Institute of Homœopathy, kindred associations and citizens."

This resolution was considered in the Senate, and the result was communicated to the committee by a note to one of our members, as follows:

"DR. J. B. CUSTIS, Washington:

"*The Senate has passed the Joint Resolution, granting a site to the Hahnemann monument.*

(Signed) "J. H. GALLINGER."

It was after some delay reported to the House by the Joint Committee under a suspension of the rules, and the result announced by the following dispatch:

"DR. J. H. MCCLELLAND:

"*Your monument bill has just passed the House.*

(Signed) "JOHN DALZELL."

Nothing was needed now, but the signature of the President. Anxious moments followed. Finally the fate of our bill is announced in the following dispatch just received:

"DR. H. M. SMITH, Secretary:

"*The President has not signed the Hahnemann bill.*

(Signed) "H. T. THURBER,

"*Private Secretary.*"

FRIENDS: Surely there is a mistake about this. There could be no valid reason for refusing a magnificent gift from the people of the United States for the adornment of the National Capital and in honor of a great scientist. If any influence has been brought to bear by those inimical to our school of practice, it will fail of its object.

The members of this Institute know—the profession of Michigan know—that Homœopathy cannot be crushed by legislative enactment.

I much mistake the spirit that pervades the people of our school if they do not rise to the occasion. Need I assure you that the monument to Hahnemann which you have undertaken to erect will rise in all its grandeur in the National Capital.

Out of many letters received from those who had been benefited by Hahnemann's discoveries and who wish to show it in a substantial way are the following which have just been received:

"MY DEAR DR. MCCLELLAND:

"I am both in duty bound and glad to subscribe to this memorial,

for surely few can owe more to Homœopathy than I, and looking back at my severe sickness five years ago I increase my intended amount. I enclose check for $100, my subscription to this fund.

"Very sincerely,

J. C. T.

"MY DEAR DR. MCCLELLAND:

"It gives me pleasure to send you a contribution for the Hahnemann monument, which is both chaste and beautiful. Enclosed find my check for $200. With kindest regards, I am,

"Very sincerely yours,

"C. J. C."

These encouraging communications indicate that by a little well directed effort many subscriptions can be obtained from the laity, who are grateful to the founder of our school.

Each member of the Institute could raise an average of $100, at all events; even if the task is a difficult one it should be cheerfully undertaken and the means secured to place our memorial at the National Capital, in spite of any and all efforts to prevent it.

On motion of Dr. B. W. James, the time for receiving the report of the Hahnemann Fund Committee was extended. Also that the report made by the committee at such time be accepted and referred to the Committee on Publication.

The pocket-veto of President Cleveland of the monument site appropriation was mentioned and discussed briefly.

Dr. Beckwith believed if Washington didn't want that monument that it should be put in competition. He therefore moved the following:

Resolved, That if the people of Washington refuse to provide for the site and reception of the Hahnemann monument as the gift of the American Homœopathic profession, that the various cities of the United States shall have the privilege of competing for such monument; and such city as shall contribute the largest amount shall receive the monument.

Referred to the Committee on Resolutions.

Dr. Talbot: A lady in this town has asked why cannot every physician appoint a lady to go among her friends and solicit for the good of this monument? It seems to me that is a most excellent suggestion.

Dr. Parke Lewis suggested that the secretary of the Hahnemann Fund Committee communicate with the proper authorities to make sure of the fact that the President has refused to affix his signature

to the bill appropriating money for the site, notwithstanding that both Houses of Congress had passed the bill, and that if such be fact, then to take active measures to have the bill again put before Congress.

Dr. McClelland stated that all this has been done, or at least so much of it as can be done at this time; and that all further steps will be taken to place the monument in Washington. He has been assured by those who have authority to so say that there will be no trouble about finding a site in Washington for the monument when it is ready to go there.

Dr. Rachel J. Davidson suggests the use of little boxes that will not admit anything smaller than a half-dollar or a twenty-five-cent piece or one dollar; let us pay for them and let them be set up on our tables for the benefit of our patrons as they come into our offices. By a little managing the doctor believed that a great many dollars could be gathered together in this way.

Dr. McClelland answered that this has also been done in the form of little savings banks, and in other devices.

The President is notified that there are two vacancies in the Hahnemann Monument Committee, and responded that the chairman of that committee must appoint his own associates.

The Board of Censors report the receipt of seven new applications, which are voted to take the usual course.

Dr. A. C. Cowperthwaite, as chairman, read the report of the Committee on Life Insurance Examiners as follows:

Report of the Committee on Life Insurance Examiners.

To the Officers and Members of the American Institute of Homœopathy.

Your Committee on Life Insurance Examiners would respectfully report that most of the work of the committee during the past year has been in the way of verification of the report presented by this committee last year. We have conducted considerable correspondence in regard to the appointment of Medical Examiners in the large cities, and so far as we can learn, not a single Homœopathist acts as an examiner of an old-line life insurance company in any large city, with the exception of the recent appointment of Dr. E. H. Porter and Dr. St. Clair Smith as examiners for the Manhattan Life Insurance Company, in New York City. The appointment of these gentlemen, and especially their appointment by the Manhattan, is a subject of sincere congratulation, and marks an advance in the appointment of Homœopathic physicians more important to the profession than any other event which has occurred since the American Institute of Homœopathy first began the agitation of this

subject. The Manhattan has been one of the four companies in this country most radically opposed to the appointment of Homœopathic physicians. Its rules have been most emphatic, never allowing under any circumstances the appointment of a Homœopath, and never accepting their examinations.

The western manager of the Manhattan assures the chairman of this committee, that so unyielding have been the rules of the company in this regard, that in the smaller towns where only a Homœopathic physician could be found competent to make an examination, their agents have been forced to import an Allopathic physician from another town to perform the service. To be able to raise the Manhattan in the subsequent tables in this report from the third to the second division, is a victory for Homœopathy, of which we may well be proud.

The failure of life insurance companies to appoint Homœopathic physicians in the large cities, is not altogether due to an intention on the part of the companies to discriminate against us. The fact is, that in the large cities life insurance examination is a business of itself, and is seldom conducted by physicians of any school, save those who make it a specialty and do little else. These men have to a great extent made for themselves reputations as Medical Examiners, and it is only natural that companies desiring the best material for examiners should place their work in the hands of these men, who have been so far exclusively Old-School physicians.

It would be quite difficult in the large cities to find leading Homœopathic physicians who would be willing to allow insurance examinations to interfere with their regular practice. Much is exacted of examiners by insurance companies. While a large part of their examinations are conducted in their respective offices, nevertheless they are expected to be ready at any moment to go to any part of the city to conduct an examination without additional fee, which in a large city, like New York or Chicago, means a sacrifice of time that no physician in large practice can afford to make.

If a young Homœopathic physician in a city desired to make a specialty of life insurance examinations, he would have much difficulty in getting a start, as but few, if any, companies would be willing to accept his services in preference to those of an old and experienced examiner.

The situation is certainly different from that in the smaller cities and towns, and while there may be no desire or intention on the part of the companies to discriminate against Homœopathic physicians, their sole desire being to secure the best service, nevertheless, it is a discrimination, and one that it will be found very difficult to overcome. This is also partly due to the fact that the already existing Old-School examiners in the large cities have to a great extent a "corner" on the business of life insurance examinations, and outside of the question of school, their influence is such that it would be quite difficult to displace them. This is pre-eminently true in Chicago, and the conditions are doubtless much the same in other cities.

Your committee now desires to place before the Institute, for the benefit of the profession in general, a report of the attitude of the various companies in the matter of the appointment of Homœopathic physicians as examiners—leaving out the question of appointment in the large cities. In so doing we will make three divisions:

1. Those companies who claim never to discriminate, and whose claims are apparently verified by the information received by this committee.

2. Those companies who do not altogether discriminate, but who show a decided preference for Old-School examiners.

3. Those companies which are decidedly inimical to Homœopathic physicians, and will not appoint them as examiners or accept their examinations under any circumstances.

We admit that this report is not, in all probability, absolutely correct, but it is based upon the information obtained by the committee through an extensive correspondence lasting over several years, and is as near correct as it is possible for us to obtain. It has in some cases proved quite difficult for the committee to form an unbiased opinion. If a Homœopathic physician is rejected as examiner, even by a company that is notoriously friendly to Homœopathy, the case is at once reported to the committee as one of discrimination against the school of practice, whereas, as a matter of fact, the company have simply exercised their perfect right to choose the best man according to their own judgment, and though possibly in some cases they may be mistaken, they have nevertheless the right to their own opinion.

1. *Life Insurance Companies who never discriminate against Homœopathic physicians on account of their school of practice:*

Connecticut Mutual, Hartford, Conn.
Equitable Life Assurance Society of the U. S., New York, N. Y.
Germania, New York, N. Y.
Iowa Life, Sioux City, Iowa,
Michigan Mutual, Detroit, Mich.
Mutual Benefit, Newark, N. J.
Nutional, Montpelier, Vt.
Northwestern Mutual, Milwaukee, Wis.
Penn Mutual, Philadelphia, Pa.
Phœnix Mutual, Hartford, Conn.
Provident Life and Trust Company, Philadelphia, Pa.
Prudential of America, Newark, N. J.
Standard, Detroit, Mich.
Union Mutual, Portland, Maine.
United States, New York, N. Y.
Vermont, Burlington, Vt.
Washington, New York, N. Y.

2. *Life Insurance Companies that sometimes appoint Homœopathic physicians, or accept their examination, but prefer "regulars:"*

Ætna, Hartford, Conn.
Berkshire, Pittsfield, Mass.

Home, New York, N. Y.
Manhatten, New York, N. Y.
Massachusetts Mutual, Springfield, Mass.
Mutual, New York, N. Y.
New England Mutual, Boston, Mass.
New York, New York, N. Y.
State Mutual, Worcester, Mass.
Trav llers (Life Department), Hartford, Conn.

Of the companies named in this list, all save the Manhattan, of New York, and the State Mutual, of Worcester, Mass., claim never to discriminate on account of school of practice, but to base appointments solely on personal fitness. However, the evidence to the contrary is so overwhelming that your committee does not feel justified in placing these companies on the list of those who never discriminate.

3. *Life insurance companies that never appoint Homœopathic physicians or accept their examination under any circumstances:*

John Hancock, Boston, Mass.
Metropolitan, New York, N. Y.
Union Central, Cincinnati, Ohio.

Thus it is seen that of the thirty old-line life insurance companies of this country only three absolutely refuse to appoint Homœopathic physicians as examiners. Ten companies appoint them occasionally, some more than others, while seventeen companies make no discrimination whatever.

When we stop to consider that it is only a few years since it was the exception for old-line companies to appoint Homœopathic physicians, and realize that now nine-tenths of the companies do appoint them, and that considerably over half of the companies make no distinction whatever, we can realize in a measure what your committee has in part at least accomplished during the past five years. Perhaps their work is practically at an end. We leave that for the Institute to decide.

Respectfully submitted,

A. C. COWPERTHWAITE,
Chairman.

Dr. E. H. Wolcott said that the Metropolitan Life Insurance Company, of New York, should not be placed in the list of not employing Homœopathic medical men; he had himself been examiner for the city of Rochester, N. Y., for two years.

The report, after some discussion, was accepted and referred to the Committee on Publication.

The President appointed the new Life Insurance Examiner Committee. (See list of committees.)

Dr. W. W. Van Baun rose to a question of privilege and cited an article which appeared in one of the Detroit papers some weeks

since severely reflecting upon Vice-President Dr. D. A. MacLachlan. He felt it necessary only to recall to the mind of those who were present at Newport last year that Dr. MacLachlan distinctly stated to the Institute that he was anxious to have us meet in Detroit this year, but he was not sure of the profession; but pending the selection of the place of meeting, which was left open for a day or more, Dr. MacLachlan had telegraphed through the State of Michigan to the various influential members, and upon the responses so received he finally extended the welcome to come to Detroit. The article in question stated that Dr. MacLachlan invited the Institute to meet in Detroit for his own personal aggrandizement and contrary to the expressed wish of the great majority of the Michigan profession.

Dr. Porter: The attacks upon Dr. MacLachlan in the daily press of this city have been most unjustifiable and outrageous. Those of us who were at Newport last year remember very well indeed the circumstances under which the Institute decided to come to Detroit in 1896. Dr. MacLachlan not only did not invite us, but he did all he could to discourage us until the sentiment of the Institute in favor of Detroit became so unmistakable and so strong as to render longer refusal ungracious. The Institute came to Detroit to support and strengthen the Homœopathic profession of Michigan and to help them in their efforts to have a strong Homœopathic college —one they can control and govern. Dr. MacLachlan is the last man, as his many friends well know, to seek in such a manner his own interests.

Place of Meeting and Election of Officers.

The selection of the place for holding the next meeting of the Institute was next called. Dr. Parke Lewis gave a hearty invitation to come to Buffalo, which was seconded by Drs. Wolcott and Wilcox. Dr. Youngman asked to have the Institute come to Atlantic City. Dr. Bushrod W. James wanted to go to Lookout Mountain.

Dr. W. H. Hanchett invited the Institute to come to Omaha in 1898, reading a number of telegrams and letters from influential citizens and officials of that city and the State of Nebraska. A grand trans-Mississippi carnival and fair is to be held about that time, so that railroad rates and other commodities may be expected to be much lower than ordinarily. Dr. Dudley appointed as tellers to take charge of the ballot Drs. Kinyon, Hedges and Bailey.

The vote upon the three places resulted as follows: Buffalo, 62; Atlantic City, 31; Lookout Mountain, 4.

Immediately upon the announcement of the ballot it was agreed to make Buffalo the unanimous choice of the Institute for 1897.

After a recess of fifteen minutes had been taken the Tellers announced themselves ready to report the result of the ballot for officers for the ensuing year:

Total number of votes cast, 191.

J. B. Gregg Custis, President, 187; C. E. Walton, Vice-President, 107; Ch. Gatchell, Vice-President, 67; C. S. Middleton, Vice-President, 13; C. C. Miller, Vice-President, 62; Julia H. Smith, Vice-President, 61; E. H. Porter, General Secretary, 187; Frank Kraft, Recording Secretary, 187; H. L. Aldrich, Registrar, 187; E. M. Kellogg, Treasurer, 183; T. F. Smith, Assistant Treasurer, 182; A. C. Cowperthwaite, Censor, five years, 184.

The President then announced the election of the officers except in regard to the office of Second Vice-President. On motion of Dr. Fisher and Dr. Kinne this was postponed, owing now to the lateness of the hour, and made the special order of business at the opening of the sessions on Monday morning at 10 o'clock.

The Necrologist, Dr. H. M. Smith presented the following:

Report of Necrologist, Henry M. Smith, M.D., New York.

The report of the necrologist this year embraces the names of the following active members who have died since our last meeting, or whose deaths have been reported within that period:

Samuel Minturn Angell (1891), died October 5, 1895.

Thomas R. Blackwood (1891), died July 30, 1895.

Aaron W. Burnside (1890), died April 19, 1896.

James William Cox (1854), a senior in 1879, died June 9, 1896; age 68 years.

Edward Everett Davis (1883), died April, 1892; age 39 years.

Joab R. Flower (1870), died May 22, 1895.

Emma Cora Geisse (1889), died November 25, 1895; age 49 years.

Frances Ida Henderson (1893), died November 13, 1895; age 39 years.

Joseph Virginius Hobson (1859), senior 1865, died October 10, 1895; age 85 years.

Stephen Worcester Hopkins (1887), died June 23, 1895; age 40 years.

Henry F. Hunt (1867), senior in 1892, died October 3, 1895; age 57 years.

William S. Jackson (1893).

Erasmus Darwin Jones (1846), senior 1871, died August 17, 1895; age 77 years.

James Edward Lilienthal (1886), died September 27, 1895; age 51 years.

ANNA E. T. EASTMAN MARSH (1894), died February 20, 1896; age 59 years.

ROBERT MCMURRAY (1866), senior 1891, died April 15, 1896; age 79 years.

WILLIAM S. MINER (1894), died January 21, 1896; age 33 years.

SAMUEL STEWART MOFFATT (1892), died April 25, 1896; age 40 years.

LESLIE ALMON PHILLIPS (1881), died May 9, 1896; age 49 years.

GORDON CORTLAND ROCKWELL (1894), died 1895; age 29 years.

JUSTIN EDWARDS SMITH (1879), died May 17, 1894; age 68 years.

THOMAS AMOS RUSSELL (1869), senior 1894, died October 31, 1895; age 69 years.

MAHLON MURPHY WALKER (1869), senior 1894, died 1896.

CHARLES JACKSON WATTS (1893), died September 21, 1895; age 27 years.

ISAIAH J. WHITEFIELD (1873), died October 25, 1891; age 56 years.

Besides those above mentioned, dying within five years, there will be published memoirs of

CHARLES REAVES CLOUD (1869), died December 7, 1876; age 32 years.

ANNIE BISSELL DILLON (1894), died June 7, 1895.

PETER WILHELM POULSON (1867), senior 1892, died in March, 1894; age 63 years.

The following are reported who were not members at the time of death:

MAHLON PRESTON (1871), dropped from membership 1885, died October 2, 1895; age 56 years.

SAMUEL R. RITTENHOUSE was elected in 1869, never qualified, died June 26, 1895; age 65 years.

ABBIE JANET SEYMOUR (1874), dropped from membership 1881, died October 17, 1895; age 42 years.

LEWIS WHITING (1869), dropped from membership 1877, died December 29, 1895; age 64 years.

EDWARD J. WHITNEY, elected in 1875, did not qualify, died August 7, 1895.

At this point the session adjcurned.

At 2 o'clock the Institute took passage on the steamer Pleasure, which lay at the foot of Woodward avenue, and went to the St. Clair Flats, the membership being parcelled out among three of the club houses. Here supper was served, and some little time spent in games and pleasant intercourse. A band on board the steamer made sweet music going and returning, and on the return trip the deck was cleared and dancing was participated in by many of the doctors, their friends and guests. Owing to the lateness of return of the steamer, which was nearly 10 o'clock, no sectional work could be attempted, and these sections were necessarily postponed until Monday.

FIFTH DAY—MEMORIAL SERVICE.

The Institute assembled on Sunday, June 21st, at 8 P.M., to hold its memorial service in honor of its deceased members. The large auditorium of the First Presbyterian Church was crowded to the doors. On the platform were seated the speakers of the evening and President Dudley, who presided. The special program provided for the occasion by the Memorial Committee is given below. The following is the order of exercises:

MEMBERS DECEASED DURING THE PAST YEAR.

Seniors.

Joined.	
1846. E. DARWIN JONES, M.D.	1867. P. W. POULSON, M.D.
1854. JAMES WILLIAM COX, M.D.	1869. AMOS R. THOMAS, M.D.
1859. JOS. V. HOBSON, M.D.	1869. MAHLON M. WALKER, M.D.
1866. ROBERT MCMURRAY, M.D.	1870. JOAB R. FLOWERS, M.D.
1867. HENRY F. HUNT, M.D.	

Members.

1873. ISAIAH J. WHITEFIELD, M.D.	1891. THOS. R. BLACKWOOD, M.D.
1879. J. EDWARDS SMITH, M.D.	1892. SAMUEL S. MOFFATT, M.D.
1881. LESLIE A. PHILIPS, M.D.	1893. FRANCES I. HENDERSON, M.D.
1883. EDWARD EVERETT DAVIS, M.D.	1893. WILLIAM S. JACKSON, M.D.
1886. JAS. E. LILIENTHAL, M.D.	1893. CHAS. J. WATTS, M.D.
1887. S. W. HOPKINS, M.D.	1894. ANNA EASTMAN MARSH, M.D.
1889. EMMA CORA GEISSE, M.D.	1894. GORDON C. ROCKWELL, M.D.
1890. AARON W. BURNSIDE, M.D.	1894. WILLIAM S. MINER, M.D.
1891. SAMUEL M. ANGELL, M.D.	

PROGRAM OF EXERCISES.

1. Voluntary, Organ.
2. Music by the Choir.
3. Invocation by the Pastor, Rev. Marcus A. Brownson, D.D.
4. Reading of Appropriate Selection of Scriptures.
5. Music by the Choir,
6. Remarks in behalf of the Memorial Committee by S. P. Hedges, M.D., of Chicago, Chairman.
7. *In Memoriam* to the late Seniors of the Institute, by Bushrod W. James, M.D., of Philadelphia, Pa.
8. Music by the Choir.
9. *In Memoriam* to the late members of the Institute, by F. Parke Lewis, M.D., of Buffalo, N. Y.

10. Music by the Choir.

11. *In Memoriam* to the late Women Physicians, members of the Institute, by Julia Holmes Smith, of Chicago, Ill.

12. Singing of Hymn, by the Congregation.

13. Benediction.

(For these addresses see "Report of the Necrologist and Memorial Service.")

Remarks in Behalf of the Memorial Committee.

By Samuel P. Hedges, M.D., Chicago, Chairman.

Friends and Fellow-Members of the American Institute of Homœopathy:

In the midst of the week devoted to our scientific discussions, we are called apart this evening, in this sacred place, to honor the memory of our departed members. It is right and fitting for us thus to assemble. The day is appropriate. Its quiet, holy calm subdues and chastens all our emotions. We honor ourselves and our profession in thus remembering our dead. One year ago they were with us. Some of them sat and listened to the beautiful memorial service in Newport, R. I. They little knew how near the sunset of life they stood. But it is a good and helpful thought for any man thus to face eternity. We will be better men and physicians for this communion to-day at the "parting of the ways." Our brothers walked the earthly life with us; we remain, we know not how long. They have passed over the river into the spiritual realm. Does not the thought arrest us here that "my name may, at the next memorial service, be upon the list of the departed?" Our lives are so filled with the present we have no time to think of the future. But this evening step aside; sit down here together; think upon the lesson brought to us in this solemn meeting. We are here in this beautiful city not only for professional instruction, but for social reunion, and as we greet each other we also, in spirit, greet our absent brothers. What does this signify if not that there is a spiritual nature and essence above the earthly and material—a soul that does not die. The body, the tabernacle, is laid away, but the inhabitant, the soul, moves on into fuller life and more blessed existence.

"Life is real; life is earnest,
And the grave is not its goal;
Dust thou art, to dust returneth
Was not written of the soul."

We can truly say it is glorious to live, but we may also, and it is our hope and privilege, to say it is *more* glorious to die.

This, however, can only be said if we so live as to be ready to die and enter into a blessed immortality. Have we given this future life the thought it deserves? We carefully consider every other interest, but it is too often true that this most important, personal question of our standing and hope in the future life is neglected. If this occasion shall seriously call our attention to this momentous fact in our present eternal existence, we can truly say: "It is good for us to have been here."

Since our meeting in Newport, we have received notice, as reported by the Necrologist, of the death of twenty-six members of the Institute. Nine of these were Seniors and two were women. This is a larger number than has been reported for several years. In the program, which you will find in the pews, you will notice the list of the deceased members whose memory we recall and honor this evening.

The date which precedes each name gives the year of their entrance into the Institute. More than one-third of the entire number have been members less than five years.

While we naturally expect to have the older members—the Seniors—taken from us, it is true here, as elsewhere, that it is the unexpected that happens. Three of those who joined us in 1894 were numbered among our dead before the session of 1896 was called to order.

So let us live that when we shall be called to join the innumerable caravan we may look up and with triumphant faith say, "I am ready."

In memory of our departed brothers and sisters, we will now listen to some brief remarks from members of the Institute. These addresses will not be of the nature of personal eulogies.

You who sit and listen, and to whom these departed ones were more or less intimately or personally known, will be able each, individually, to apply to them the fitting, sympathetic and loving remembrances as they are spoken for you and for us all by the speakers.

You will now be addressed *in memoriam* to the late Seniors of the Institute, by Bushrod W. James, M.D., of Philadelphia, Pa.

Memorial Remarks on the Deceased Seniors of the American Institute of Homœopathy, 1896.

By Dr. Bushrod W. James, Philadelphia, Pa.

Nature's laws of mutation are as clearly defined as those that govern this world in general. It is origin, growth, full development, decay and then the final change. So we find it in regard to mankind as well as in social life.

Another year has fled since the American Institute of Homœopathy held its last memorial service, and as it has ever been, our eyes glance around and behold vacancies in our circle. There are some absent ones who will never join us in our earnest discussions nor in our pleasant social gatherings.

Looking back through the years as they have waned, we behold the lives of these departed members of our Association of Seniors who each in boyhood days still thoughtless of his future career, by some consistent plan, or possibly through a sudden impulse, each felt himself drawn to the study of medicine or surgery, that he might some day make his name known to the world in the sacrificing profession which must always hold its position among the most useful and noble occupations in life.

We watch the smooth boyish faces as they lose their childish roundness; we see the lines of thought upon brows once clear of ideas beyond those of fun and mischief, and by and by the laughing eyes and boisterous voices become full of deep intelligence and ever earnest in their continued inquiry into the mysteries of the anatomy and physiology of the wonderful human mechanism.

Step by step, with many an hour of arduous study, with many a disappointment and many a hard-earned word of praise, we observe them as students take hold of the rounds and mount the ladder until graduation day is reached—that day which some young aspirants think is the closing day for hard, toilsome study, the dawning of a glorious, out-spreading vista of success!

Leaving this ladder of student life, we note them slowly, laboriously climbing life's rugged hill, some almost fainting by the way, others going on triumphantly, but all meeting difficulties of which their youthful minds were not in the least aware, until, in due time, the ambition to become members of this influential and wide-reaching Institute is put into action, that they may obtain a fuller and broader knowledge through communication with the hundreds of honest toilers in the fields of science, who annually meet to impart instruction, to receive new ideas or to call forth and follow discus-

sion upon familiar or new subjects, impel them to link their names with the Institute.

Still pressing onward, the speeding years adding greater breadth and depth to the erudition to which they are ever reaching, and new strength to the characters upon which every day seems to mould a fresh link with which to bind the confidence and affection of their comrades closer to them, they reach the quarter of a century of earnest work in the Institute, and enter the Society of Seniors, to whom has been given the honor of discussing and settling questions of ethics and others of peculiar moment. The Association of Seniors upon whom we look to-day, some gray haired and bowed with honorable age and patient toil, others just entering the organization, bringing with them a touch of youthful spirit, a glow of still uncurbed ambition, and a touch of fiery argument, and others still who would learn from wiser heads—whose object is ever to learn so long as the mental powers can comprehend and hands perform their duty.

And as the cycles turn and we meet again year after year, we miss some whose days have overreached the span allotted to man—those who were ready to lay down their arms and enter their well-earned rest. But others are absent and to our human vision they were still young and vigorous—still fully able to cope with the subtle enemies of suffering mankind for many years to come. But their places are vacated for others to fill, and we can only mourn their loss, nor question the hand that has permitted the scythe of the reaper to gather such noble grain. And yet it must be that the work assigned them was finished, and that it is left to those who remain to take up the threads that have fallen from the nerveless hands, and to continue weaving the glorious tapestry that glitters with the intermingling golden threads of immortality. Our brightest tributes to their memory will be our faithful continuance in the work they have dropped, our earnest support of the truth, whose promulgation was the dearest object of their brave and useful lives.

Standing on the line between the aged seniors, who are ready and willing to lay down their armor and enter into well-earned rest, and the brave young soldiers who are eager to enter the battle of life against the evils which menace old and young on every side, we realize how much there is in human existence to call forth latent energy, and how great the reward that awaits those to whom the warfare has become a thing that is past—a story that is told. Weary, but not discouraged, age steps aside and smiles at eager youth; and youth springs forward as if to him alone has been given the power to conquer difficulties. Alas, how soon the youthful days take wings! How soon the brave young eyes grow dim, the eager heart with all its restless ambitions and resolves grows more sluggish and gives way to the other youths who follow with resounding footsteps and glittering insignia.

It is natural that the older members of our Society should become less ambitious each year, and more willing to look with approving eyes upon the younger, stronger element which is knocking at every

door for admittance. Youth longs to test for itself, ever believing that its experience will be more consistent with the ideas which hope and ambition put forward with unbounded confidence. Perhaps those who have proved the fallacy of one-half of the day-dreams of the young physician, may look on with pity for the disappointments and difficulties that are very certain to come to the most actively earnest worker; at the same time, they can smile at the riches of life and strength, ambition and hope, determination and self-sufficiency that beam in brilliant eyes, and nerve the heart and brain to meet unexpected opposition.

Each year the dividing line between the Institute and its Senate or Association of Seniors is crossed by those who have served their twenty-five years' probation, each year there are vacant seats ready to be filled by newcomers, and thus the Institute increases its numbers and its usefulness until it has now become a world-famed society, upon whose decision thousands upon thousands are waiting with increasing interest as the years advance.

In truth, the credit is due, in a certain measure, to the great number of actively practicing physicians who belong to the Institute, and are engaged in its momentous business of proving and promulgating the law upon which Homœopathy is founded; but much of its importance is also based upon the character and usefulness of those members who have from time to time passed from our midst forever. Doctors, some of them already grown old in the practice, were the earlier workers in the Institute for the express purpose of building up the New School upon a solid unassailable basis. Through many trials they remained true to the cause, they spent their time and overtaxed their advancing years for the sake of those that would come after, and we have seen them grow feeble and gray, still devoting their last efforts for the benefit of others, making clear the pathway, and ever beckoning them to follow and see for themselves the beauty of their ideal of medical practice. We have seen them so old and feeble that life was no longer an object beyond all else, ready and waiting to lay down their weapons, or rather eager to give them into the hands of youth and energy, and we have seen the aged-dimmed eyes grow bright and the quivering voice gain strength once more, while speaking in enthusiastic praise and affection of the glorious and wonderful law of cure, whose study actually seemed to give them new life and hope. But one after another, they reached the limit of time allotted to them for toil, and calmly they closed their eyes upon this stage of human history. Year by year, the roll of the silent ones grows longer! Time and again, the shock of the announcement of one and another and another having been called away, makes our hearts weigh heavily with sadness and depression. We miss them more than we can tell, and the vacant places fill us with unspeakable loneliness as we gaze around our medical homestead. New faces are here, but they have not yet become familiar among us, nor have their voices yet touched the vibrating chords that are still sounding with the echoes of those voices now silent forever.

We have looked to them for counsel or approval; we have felt unbounded trust in their decisions, and taken their criticisms and debates, their instructions and advice as from those whom experience and honest work have made our superiors in the profession, our teachers, whom it was but justice to reverence and admire.

But they will never know how fully and entirely were appreciated their patience and perseverence in brightening our way to knowledge and success. They cannot know how sadly we mourn their demise, how eagerly we would greet them back to our annual meetings! But would we call them back to the battle which they have finished? Could we wish them to return through the portal which seldom yields except after a period of suffering, which only the agony of death can open wide enough for weary humanity to pass through into the strange Hereafter of Eternity? The resting-place after life's toilsome journey! No, we must bid them *farewell*, until we, too, shall have passed through the mysterious gate of silence! We must be contented to remember them with warm affection and abiding honor, while we take their followers by the hands and bid them a cheery welcome. As they grew old and travel-weary they watched with pleasurable anxiety the younger talent that they well knew must some day fill their places. Taught by the ripening experience of age, they looked charitably upon failings, and trustingly upon ardent, over-reaching ambition; remembering their own shortcomings, and hoping that so far as was in their power they had filled up the quicksands and smoothed the pathway for feet eager to tread the road to greater or more unlimited success.

Trustingly they have left their cherished task for us to take up and continue faithfully, until we too are overcome by work, and pass our shuttles to more nimble fingers and more active brains.

They looked beyond to the future, and to the young bright element who should see the grandeur of their life-object, and make it their own to carry on to perfection, with unsullied honor and faithful adherence to the right, as they devoted life and strength to proving beyond all doubt the truths of our science.

And so we hand down to our followers the past which fell to our lot to perform to the best of our ability. Soon we must follow the quiet company of whom we speak to-day, and it remains with ourselves only to do our duty with honor and sincerity, leaving to the future to prove whether we shall be mourned and missed as our dear absent friends.

And so we find a never ending round of mutations. We bid farewell to a pale-faced comrade to-day—we turn and greet with hearty cheer his bright follower, and through and around all the checkered woof of human life here, and the golden warp of eternal life hereafter, are being woven into imperishable fabrics around each one of us. Oh, may those golden threads draw us closer to the Great Physician in whose glorious presence our toilsome journey through this vale of suffering and sorrow will be forever forgotten, leaving for us only the sweet reward of having performed our duty faithfully, consistently and well before God and our fellow-man.

And when the summons comes may all appear
With armor bright, and hearts with joy uplifted
To meet the Master, to whom a day or year
Is but a wave across life's highway drifted.
May each one answer as he hears that call,
Nor backward gazing, lose the first bright glory
That greets the faithful soldiers one and all,
And crowns the final triumph of life's story.

Address in Memory of Deceased Members of the American Institute of Homœopathy.

By F. Parke Lewis, M.D., Buffalo, N. Y.

When we approach the wavering line which divides life from death, when we stand in the very presence of the Great Mystery, when we see the slow stiffening and feel the chill that means the end of the physical life in this world for some brave soul, there comes, sometimes, a moment's lifting of the veil between us and the vast Beyond. We are taken to the "edge of the Infinite, and allowed for a moment to gaze into that." We feel ourselves illuminated by flashes of truth; we know that it is the intangible that is real, it is the unseen that is Eternal. The rushing, practical, utilitarian world becomes suddenly unreal; the hard common sense governing it seems shortsightedness; and many of the aims which we have considered worthy of all praise and emulation we see clearly are blind folly.

In these moments, these rare moments, which we can seldom recall at will, but which we look back upon as times of inspiration, we feel the truth of St. Paul's "*now* we see through a glass darkly," and the limitless possible vision of limitless truth gives a new meaning and beauty to Life, a new meaning and beauty to Death.

Some one has said, "no man is completely born till he has passed through death." And, with what we know of present conditions, it seems, indeed, as if death were as essential to Life as life is a prerequisite to Death. That which we know as death being, therefore, a phase, not an end; or rather, the terminating of one period that another may take its place in the process of development.

That the end of the physical existence should be but the beginning of a life full of yet greater possibilities seems no less "natural," or according to the probable course of nature, than the dropping of the blossoms because the time for fruition draws nigh.

I wish to say this because I am to speak to-night not only of the dead but to the living, and I would have the difference seem less great, the connection made a little more real, between that which is and that which is to be. And this not merely for the comfort of

those whose dear ones have left the flower for the fruit, or in commemoration of those, our brothers, whose lives have passed beyond our line of vision, but for the strengthening also of those to whom mystery may soon be knowledge, for whom the Fever we call Life may soon be done. To us all the transition must come soon, at best, and then—

> "When earth breaks up and heaven expands,
> How will the change strike me and you,
> In the house not made with hands?"

This question calls inevitably for a solution, because whoever ignores or refuses to consider the truths Immaterial pressed upon him day after day, through every avenue of nature, will be engulfed beyond hope of escape by the things of his own choosing—the hardening earth-case of materialism, which has no reality beyond this world's narrow bounds.

Upon our attitude toward Life, upon what we think about Life, depends largely what we do in life, depends certainly what the result of our doing shall mean to us, and what the Great Change will mean when it comes. For "as a man thinketh so is he." His deeds are the outcome of his constant thought, and fundamentally "a man *is* the spirit he worked in, not what he did, but what he became." However strong a hold the practical things of life may have, man is, essentially, a spiritual being, and to realize his highest possibilities he must live in recognition of this fact.

At the most solemn times that come in a man's life, times that seem to cut off the past and the future and leave him face to face with the ultimate verities, he does realize that that life only is really practical that lays strong hold of the truth that we live in an Eternal *Present*; that there is, literally, for no man, any future, any past; that life is one Everlasting *Now*, and that that which we know as Death, that which inevitably comes at some time into every man's "Present," is the birth of new conditions with which his life is to expand into that which must forever be a mystery to us here, because incomprehensible within the environment of finite conditions.

This is no new theory; it is as old or older than Christianity, it is the essence of all religions, and yet is the one faith of some who think that they have no faith, and I only repeat it to-night because it seems to me the one essential thing in life—the right mental attitude toward life—the broad view, *the opening of man's mind to the Infinite.* It ennobles all work, it drops trivial things into their insignificant places; or, in another way, it elevates all the details of life until *nothing* is trivial, *nothing* unimportant; it glorifies the duty of the present hour, but it leaves no room for regret or discouragement when one has lived up to the best that the hour offers.

And then when for us, or for another, the work ceases, the dawn of the new day comes and the soul's present is lifted beyond our sight, beyond our present possibility of knowledge, this belief in the

greatness of life, this finite grasp of the infinite is the one strong comfort, the one source of strength and hope. For by it we reach the truth that "the ladder is not long that unto heaven leads. Measure what space a violet stands above the ground. It is no further climbing that souls or angels have to do than that."

With this view of the greatness of life the separation of death loses something of its terror.

There have gone from our ranks here during the year past half a score of brave fellows, who, with the self-abnegation that is an essential part of a physician's career, have been fighting for the lives of others, for the strength that seemed to fail in other men's lives, as we are fighting now. Much of the time, perhaps, they fought close to the wavering line themselves without knowing it, as many of us are doing now; but when, with unselfish aim and strong purpose, they fought on through days of weariness and nights of pain, the result has been something more than any one of us could estimate, or weigh, or measure. And when, in the midst of the struggle, they went on into their new day they took with them the strength born of combat, the insight gained by the effort to see through darkness and the energy of a great purpose. We speak with reverence the names of these, our brothers, as we pitch our thoughts and aspirations high that they may offer a fitting memorial of men to whom the larger life is now a fact.

> Theirs is now the evidence, theirs the prize—
> The knowledge we have grasped at, failed to reach,—
> That which comes only with the heavenly speech—
> Is theirs, who, such a little time ago
> Walked with us, striving as we strive, to *know*.
> Then, in a moment, heavenward turned their eyes.
> And theirs is now the victory, theirs the prize.

In Memoriam of Three Women Physicians.

By Julia Holmes Smith, M.D.

Mr. President, Members of the American Institute and Friends, who, by your presence, show your interest in this, our memorial meeting: The duty which is assigned to me, to speak to-night a few words in appreciative memory of the brave women who rest now from their labors, is in no fashion unwelcome, for although my heart, in one case at least, must ache with a deep sense of personal loss, yet some consolation is to be had in reviewing for you the history of these lives which have passed beyond the trial stage, so, perchance, as we follow them step by step we may learn a lesson of endurance from the record of their struggle and of encouragement for hope in their

successes. I feel that I stand on the verge of the far beyond, and I ask you to twine with me wreaths of loving memories to place upon these far scattered graves, which are all that remains visible to us of those for whom, during the past year, it has been written by the hand of death, "This is the end." We grieve not,

"but rather find
Strength in what remains behind,
In the primal sympathy,
Which having been, must ever be.

"In the soothing thoughts that spring
Out of human suffering,
In the faith that looks through death"

for our souls so catch sight of "that immortal sea" that we flaunt the *resurgam* in the face of the grim monster and we cry: "Oh! death, where is thy sting? Oh! grave, thy victory where?" For if the earthly house of this tabernacle has been dissolved, we know, past all doubting, surely that God, the All Father, has prepared the place, and the dear Lord, who himself brought life and immortality to light, awaited each of these, our sister souls, as, passing behind the veil, each sought her appointed sphere where she must take up anew the service of the Master, the great Physician, who, being the author, must also be the ruler of all life.

Dr. Francis Ida Henderson was born in Titusville in 1856, and in her early girlhood was the beloved pupil of our Dr. Millie Chapman. It goes without saying that the lessons from such a teacher must have had much to do with shaping this woman's life, devoted as it was, in maturer years, to self-denying service for others.

Dr. Coresta Canfield was her preceptress in medicine, and Francis Ida Henderson graduated with a fair record in 1888 from the Cleveland Medical College, entering at once upon the duties of the profession. Toiling early and late, with unusual professional success, that she left no great estate is due to the fact that dear ones received from her willing hands richest largesse, and in their bereavement the family mourn the woman and breadwinner as well. Her life was set to the music of love although her sweet womanhood was never sanctified as wife and mother.

Dr. Anna Eastman Marsh needs no introduction to the Michigan profession, for she was of this State, and I am told that this rarely gifted woman was, at fourteen, teaching in Detroit. Yesterday it was my very great pleasure to meet a few of her one-time pupils in Ann Arbor, from them hearing words of kindest appreciation, as well of her ability as instructress as of her charm as a woman. She has been sketched for me a tall, well-proportioned, fair haired, and finely featured woman, with a heart, judgment and intellect matching her physical proportions. A graduate of the Michigan University, her interest in Homœopathy had its origin in the time of a cholera epidemic in this city, where, I think, the success of the treatment, according to the law, "*Similia Similibus Curen-*

tur," was so far greater than the treatment of the disease by any other means, that Dr. Marsh embraced our method of cure. She carried the banner of Homœopathy to Colorado. Her ability was acknowledged by the profession there, and the last years of her life were marked by continually increasing professional influence.

Dr. Anna Eastman Marsh was a woman to be loved and wooed, but the betrothed of her early girlhood could not accept her ideal of duty, the long illness of a sister demanding from him a loyalty equal to that of Joseph. Hence she was not married until late in life, and had no children. Accumulating a goodly property, part was, by will, bequeathed to the University of Michigan where she had studied, and her body was given for scientific service to the Homœopathic College at Denver.

God's peace be with this scientific soul who has gone up higher, and who has solved more of life's mysteries.

DR. EMMA CORA GEISSE was a native of Ohio, and rounded out her half-century just as she passed from this world. The summons came suddenly. The illness was brief and very painful, and, at the doctor's own request, her body was cremated, and the ashes sent to Wellsville, Ohio.

The life so ended was pathetic in its loneliness, in its heartaches; it was grand in its devotion to duty.

Dr. Geisse was graduated at the B. U. S. M. in 1885, had some hospital experience in Boston, and then began her professional career in Detroit, where, I am rejoiced to find, she has very many loving friends. In 1891 she came to Chicago, and I was especially won by her noble face and gracious presence. She shared my office for five years, in my absence attending to my practice, and frequently performed successfully grave surgical operations at my request. She liked to operate, and made a careful study of abdominal surgery at the Post Graduate of Chicago, under Prof. Byron Robinson, who was always her loyal friend, and who was her physician at her death-bed.

Dr. Geisse was my appointee as Homœopathic physician at the Woman's Hospital at the World's Columbian Exposition, and by her tact and skill there she won many converts to the Homœopathic law of cure. That summer Dr. Geisse was resident physician at the Christian Endeavor Hotel, and visiting physician at the Woman's Dormitory. She made quite a goodly sum of money, but the dear Doctor was not a frugal soul, and so had nothing left to dispose of by will.

Dr. Geisse had more than her share of disappointments; some professional friends were disloyal: the love of her youth proved unworthy of her; and the need of getting and gaining pressed until the very knock of the Angel of Death; and yet I, who knew her the last five years of her life, found her always cheerful, full of courage, faithful in friendship, honest in business engagements, successful in her profession, and, in one word, a thoroughly good, true woman.

The Doctor leaves two sisters who mourn for her, one of whom

was fortunately present during her last hours, and able to superintend the last sad offices.

I cannot better close these brief memorials than by quoting Rev. Francis E. Townsley's verses:

IN MEMORIAM.

OUR PROMOTED.

We from our basement windows
  Look out with tears;
They in the royal chambers
  Smile at our fears.

We in the gathering shadows
  Bow low in grief;
They in the fadeless glory
  Find sweet relief.

We plead, with faltering accents,
  "Help us to pray;"
They with a harp of triumph
  Praise Him alway.

We cry with bitter yearning
  For His own rest;
They with unuttered gladness
  Lean on His breast.

We in the Now, not knowing,
  Trust, though we die!
They in the sure Hereafter
  Know our Lord's why.

We sleep and dream of rapture
  To wake heartsore;
They in the real and eternal
  Dream nevermore.

We, by and by, the portals
  Of Heaven shall win;
They, with a love unchanging,
  Will bid us in!

SIXTH DAY—MORNING SESSION.

MONDAY, June 22, 1893.

Dr. Cowperthwaite made an additional report for the Censors.

The report of the Committee on Pharmacopœia was then presented as follows:

REPORT OF COMMITTEE ON PHARMACOPŒIA OF THE AMERICAN INSTITUTE OF HOMŒOPATHY.

JUNE 22, 1896.

Your committee is pleased to report that the work that has engaged their attention for the past eight years is nearly completed, and the manuscript is now in the hands of the printer, Part I. being in type. They feel that they can with confidence promise the completed book this fall.

It certainly is a matter for congratulation, that the time is so near at hand when the Homœopathic profession will obtain the means whereby they may secure uniformity in the strength of their preparations.

Respectfully submitted,
CONRAD WESSELHOEFT,
Chairman, for Committee.

The following resolution was offered and unanimously adopted:

Resolved, That the American Institute of Homœopathy approves the action of the Pharmacopœia Committee, and endorses its course in the publication of the proposed Pharmacopœia.

Dr. T. F. Allen then presented the report of the Committee on International Homœopathic Congress as follows:

REPORT OF COMMITTEE ON INTERNATIONAL CONGRESS.

The Committee on the International Homœopathic Congress organized, selecting Dr. W. A. Dewey secretary.

We have held several meetings, and our indefatigable secretary has performed prodigious feats of endurance in arranging the transportation affairs with which your committee was, in part, charged.

One of the chief duties of your committee has been the selection of essays to present to the congress. This has been attended to, and all selected have been listed to be presented at the congress. Dr. Bushrod W. James had previously volunteered to write on the subject of ophthalmia, and, as his offer had been accepted, he was not included in the list of those selected by the committee.

We present herewith the arrangements for transportation and the list of American essayists, and we suggest the appointment of delegates from this Institute to the congress, who shall be furnished with proper credentials.

Notwithstanding the unfavorableness of the time of the year for the meeting of this congress, a fairly good rate has been obtained for the round trip to London.

This rate on good steamers, first class, varies from $100 to $150, according to the accommodations. Notices of steamers sailing, etc., have been duly published in our journals.

In London, the Local Committee has arranged for entertainment during the stay of members.

Papers for International Congress.

1. Carcinoma of the Uterus. James C. Wood, M.D., Cleveland, O.
2. History, etc., of Homœopathy. Frank Kraft, M.D., Cleveland, O.
3. Can We Prescribe More Accurately by Taking Into Account Pathological Symptoms? J. Montfort Schley, M.D., N. Y.
4. Tuberculin in Purulent Pleurisy. B. S. Arnulphy, M.D., Chicago, Ill.
5. Appendicitis, Medical and Surgical Treatment. Horace Packard, M.D., Boston, Mass.
6. Some Reasons for a Belief in Homœopathy. Walter Sands Mills, M.D., Stanford, Conn.
7. Homœopathic Literature, its Future Needs. T. L. Bradford, M.D., Philadelphia, Pa.
8. Homœopathic Vulneraries. J. G. Gilchrist, M.D., Iowa City, Ia.
9. The *A Priori* Argument for Hahnemann's Law. Robert Walter, M.D., Wernersville, Pa.
10. Ophthalmic Therapeutics. (A paper on.) A. B. Norton, M.D., N. Y.

A paper from Dr. Bushrod W. James has been presented to the congress, but not to this committee.

It was moved by Dr. Delamater, and properly seconded, that the report be accepted and the delegates appointed, with the request that the General Secretary furnish credentials to all members of the Institute who propose attending this congress.

The Committee on Medical Education was called, but, owing to the absence of Dr. Richardson, and the further absence of any paper, or of any knowledge of the title of his paper, it was moved to pass that committee, with the proviso that the paper, if presented before the close of the sessions, be received and referred to the Publication Committee.

Dr. T. F. Allen reported for the Committee on Drug Provings, stating that no provings had been made during the past year, and that no report was ready to be made.

Dr. Martin Deschere was reappointed to the chairmanship of this committee.

Report called for from the Committee on Resolutions.

Dr. T. Y. Kinne gave notice of a proposed change in the Constitution and By-Laws as follows:

Article III., Constitution.—Insert after the word "each" the words "or priority of election."

Article V.—Insert after the word "at" the words "any session of."

Article XI., By-Laws.—Insert after the word "at" the words "any session of," and add the words, "provided notice of such alteration or amendment shall have been given at the previous annual meeting. They may be suspended at any session of the annual meeting by a two-thirds vote of the members present."

Dr. Kinne presented the following report for the committee having in charge the question of retrenchment of expenses of the Institute:

Your committee to whom was referred the matter of retrenchment in the expenditures of the Institute without impairing its efficiency beg to report as follows:

Strike out in Section 5 of Article 3 of the By-Laws the paragraph beginning "He shall send copies," etc., to and including the word "Transactions."

Change Section 1, Article 8, of the By-Laws, so as to convey this idea:

The Committee on Publication shall consist of three members of the Institute, to be appointed annually by the Executive Committee, whose duty shall be to pass upon all papers or reports presented to the Institute, and the decision of such Committee as to the publication of papers or reports shall be final.

Also:

Extra copies of any paper presented to and published by the Institute may be furnished by the General Secretary to persons desiring them at cost price.

In line 5, of Section 4, of Article 8, By-Laws, strike out the words: "The list of deceased members shall be revised and republished annually."

Signed by the full Committee.

Before any further action could be taken upon the report the special order was called and the ballot was taken for Vice-Presidents of the Institute, Drs. Bailey, Chapman and Kingsman being appointed tellers. This resulted as follows:

C. E. Walton, M.D. (balloted for on Saturday), 107; Dr. C. C. Miller, 30; Dr. Ch. Gatchell, 14.

Total ballots cast to-day, 45. Hence the President announced that Dr. C. E. Walton having received the larger number of ballots for Vice-President, was elected First Vice-President, and Dr. C. C. Miller, having received the largest number at this balloting, was declared the Second Vice-President of the American Institute of Homœopathy.

The report of the Committee on Retrenchment was then resumed.

Dr. T. F. Allen did not wish to be prevented from reviewing his extemporaneous remarks made in the sections. He would be willing to pay for the cost of having that properly done.

Dr. Fisher: I feel, like Dr. Allen, that we ought not to go on record with our crude and extemporaneous remarks unrevised.

Dr. Cowperthwaite: If I could judge of the value of the reports from the specimens of my speeches I have received, I should certainly ask to have them revised. I say this not to impugn the correctness of the reports, but chiefly because of the awkwardness of my remarks made on the spur of the moment. I believe I should prefer to have the reporters correct my speech rather than give it to me as I speak it.

Dr. Bailey referred to what had been said by one of the speakers concerning court stenographers, and said that that would not apply, since they are required to have the witnesses read over and sign their testimony. He suggests that the Recording Secretary shall send copy of the remarks made to those who desire such copies and who are willing to pay for the transcript, etc.

Dr. Julia Holmes Smith wanted to revise her speech, because many of those that had been sent to her in times past were simply abominably reported, and even put into her mouth bad English.

Dr. Van Denburg: When these notes are sent to the authors, it reminds them of the speech they wanted to make, and the temptation to put in that speech is very great. There ought to be an end to this lengthening out of impromptu speeches. Something should be done to cut down the printed eloquence.

Dr. Ludlam: So far as the resolution is concerned, it seems to me we had better understand upon what we are at work. We are wandering far from the subject. If we are going to send proofs of the remarks to the speakers to be read over and corrected, and in the great majority of cases added to, we are making a bad matter worse, for the purpose of this committee is to retrench in the expense of printing and postage and not in reporting. The reporting is done any way. I think the whole matter ought to be gone over carefully. We had perhaps better go home and write out what we wanted to say.

Dr. Porter: This question of amending the By-Laws is something that very much interests your Secretary. The suggestion of Dr. Ludlam that we go home and write out what we intended to say is exactly what so many of the speakers do. If you will look at the

wording of that resolution and compare it with what is proposed to strike out, you will find that it does not interfere with the scientific part of the work—the sectional departments—but only with the general sessions. This is done as much for expedition in preparing the copy for the printer as for the expense in sending and receiving the copy.

Dr. Talbot: I understand from the Secretary that it is not designed to refuse to send copy of the remarks made in the sectional work to the authors, but only such remarks as were made in general sessions. It is certainly not necessary nor advisable to have the business of the Institute returned to the members for correction. That ought to be left to the Secretary, as it is in all large bodies. It is his duty to keep a record of the proceedings, of what has taken place, and not to report all the speeches made to introduce such business.

Dr. Dudley having resigned the chair to Dr. Kinne, proceeded to speak on the question, when the hour for adjournment arrived, and the gavel fell.

SIXTH DAY—AFTERNOON SESSION.

At half-past two o'clock, the American Institute of Homœopathy was addressed by Dr. J. P. Sutherland, in the third of the centennial addresses on "The Clinical Efficacy and Superiority of the Law of Similars; Is It a Reliable Guide in the Practice of Medicine?"

(This address may be found with the others at the close of the General Sessions.)

At the conclusion of the address, the Institute adjourned until the next morning at 10.30 o'clock.

SEVENTH DAY—MORNING SESSION.

TUESDAY, June 23, 1896.

The Censors reported two more names for membership; ordered to take the usual course.

The President: Is there any report from the chairman of the Committee on Press?"

Dr. Kinne: I heard Dr. Kraft say last night that he had no report to make, except that the Local Committee had taken upon itself

almost all the duties of the Press Committee, and that they were entitled to whatever excellencies had been found in the work of this committee. The Local Committee had made strenuous efforts to enlist the journals of other cities to receive and publish the Institute news.

The Intercollegiate Committee being called upon for its report, Dr. I. T. Talbot presented the following:

REPORT OF THE INTERCOLLEGIATE COMMITTEE FOR 1896.

The past year has been one of prosperity to our colleges. Notwithstanding the higher standing and greater requirements, the number of students amounted to about two thousand and that of graduates for this year to over five hundred. The amount of unproductive property belonging to the colleges, in land, buildings and apparatus, exceeds $1,332,000, on which there is a debt of $296,762, and endowments amounting to $142,000. The income from various sources amounts to $120,689.

These financial statements do not include the three schools belonging to state universities. The number of alumni from all the colleges is 11,317.

The vital importance of these colleges to our cause and to this Institute is obvious. To them, more than to any other source, are due our progress, present members and standing in this country, and it is the unquestionable duty of this Institute, and of the profession, to sustain these colleges by increasing—

1. The number of medical students.
2. The financial resources.

Your committee would make the following suggestions:

1. If every member of this Institute would provide for these schools one good student every two years, the number of students would be nearly doubled from that source alone; if every Homœopathic physician in the United States would do the same, we should have more than 20,000 students in our schools, an average of 1000 in each school.

2. The total income from the schools is insufficient to defray their necessary expenses, while deficits are often made up by contributions of the various members of the faculties, very few of whom receive any pecuniary compensation whatever for their often severe and self-sacrificing labors. Their labors, well performed, are of great value to the profession, and yet what physician, outside of the said faculty, ever thinks of an occasional contribution to the college funds? In fact, do not many prefer a deduction from the regular fee, in case a son or near relative is to be educated, rather than to make an addition thereto? But aside from the support which the colleges should receive from the medical profession, ought not the general public to contribute liberally to them? Almost every form of educational institution except the medical re-

ceives generous support from the public. Science, literature, theology, all have frequent endowments, and yet there is no branch of education that comes so directly home to the great public as that of medicine. The health of communities and the lives of their best, as well as their poorest citizens, are placed in the hands of a profession which these same communities have done nothing to educate or improve. Is it not quite time to present this matter in its true light to the public and to its generous givers, that they may consider the claims of the medical profession for educational support.

It will require effort and time to fully turn the attention generally to this subject; but when once accomplished, we may find our medical schools not wanting in public support, to which they are properly entitled.

Your committee would recommend the following resolutions:

Resolved, That in the opinion of the American Institute of Homœopathy, it is the duty of every member and of every Homœopathic physician to freely and efficiently contribute to the support of our medical colleges, and, in the name of Hahnemann and Homœopathy, to do their utmost to arouse public interest in the elevation and advancement of medical education.

In order better to promote harmony among the several colleges affiliated with the American Institute of Homœopathy, and to maintain discipline and good government in the same, as well as to insure compliance with the high standard which this committee has created, it is

Resolved, That no college shall accept a student from another college and receive him in advance of the rank shown by the credits issued by the college in which he was last matriculated.

2. *Resolved*, That no college shall accept a student from another college, unless said student furnishes the proper certificates, with a receipt for all dues and fees, up to the time of his departure from the college in which he was last matriculated.

Assured that the American Institute of Homœopathy will cordially co-operate with and assist its Intercollegiate Committee in their efforts for the improvement of all the medical colleges and of the cause of medical education, this report is respectfully submitted.

I. T. TALBOT,
Chairman.

On motion of Dr. Kinne, the report was received and referred to the Committee on Publication.

Dr. Peck moved that the recommendations of the committee as embodied in their report be adopted. So ordered.

Dr. Talbot presented the report of the Interstate Committee, as follows:

Report of the Interstate Committee for 1896.

Mr. President and Members of the American Institute of Homœopathy.

Having met in accordance with your instructions, we, the representatives of our various state societies, have duly organized as the Interstate Committee of the Institute.

As a result of our deliberations we respectfully submit the following recommendations:

Preamble.

Whereas, It is of great importance that our state societies should be in harmony with the American Institute of Homœopathy, and to secure this end *we recommend* the revival of the former custom by which the presidents of our state societies shall become honorary vice-presidents of the Institute, and the secretaries, corresponding secretaries of the Institute during their respective terms of office. We further recommend—

1. The legal incorporation of all Homœopathic State Societies not already incorporated.

2. The organization and incorporation of Homœpathic State Societies in states containing a sufficient number of Homœopathic physicians wherein no such organizations exist.

3. That it be urged upon all Homœopathic State Societies to annually furnish the Institute with correct lists of Homœopathic physicians and of all Homœopathic institutions (including hospitals, colleges, societies, journals, etc.) in their respective states; and also that an annual report of desirable locations for Homœopathic physicians in their respective states be prepared by the state societies for publication, and that copies be furnished to the American Institute.

4. That this Interstate Committee be made a permanent committee.

5. That each state society should annually publish a list of its members, together with as much of its general transactions as practicable.

6. That a system of interstate delegation between our state societies be arranged as far as practicable.

Respectfully submitted.

I. T. Talbot, *Chairman.*

Mary F. Cushman, *Secretary.*

Dr. Richardson moved that the report be received. Ordered.

Dr. Kinne moved that the recommendations be taken up *seriatim*, and discussed and passed or rejected. Seconded and ordered.

The first and second recommendations were duly adopted.

Dr. James (speaking to the third recommendation) said that it is to bring these state societies into closer relations with the Institute.

Until the meeting in Chicago there was a regulation which had existed for a good many years, that the presidents of the state societies were honorary vice-presidents of the Institute. But it was a great deal of work to communicate with forty-five societies, and bring them into harmony with the Institute, and to interest them in it. Now it has become a dead letter. Twenty-seven of these societies appointed delegates, and a large number of them were represented. I feel that there is in this motion the greatest opportunity for giving vitality to the Institute and increase its strength. It will not necessitate any change in our by-laws at all. In regard to the expense, there is no doubt that most of these men are already members of the Institute, and would not require the copy of the TRANSACTIONS; if they are not members, this course of appointing them honorary members will tend to make them join with us. And I will offer as an amendment that if they are not members of the Institute that they do not receive the TRANSACTIONS. Seconded by Dr. H. M. Smith.

Dr. Talbot did not approve of this plan. The position taken is, he said, singularly inconsistent. We ask these people to become our vice-presidents, and then refuse them the first privilege of a member. By such action you instantly set these vice-presidents apart from the Institute and make them feel their peculiar position. I don't think it would do.

Dr. James: It is a very easy matter to become a member, and I think a man ought to feel that he owed it to the Institute to join hands with it when he is made president of his state society.

The President: Honorary vice-presidents would not be honorable members at all. I think it would require a special vote to send the TRANSACTIONS to these people.

Dr. Kinne; I am opposed to this resolution. First, it is impracticable. It provides that the presidents of state societies shall be honorary vice-presidents, and the secretaries shall be corresponding secretaries of the Institute. The Secretary of this Institute gets out his TRANSACTIONS in—say three months. A new man is put in—a new secretary—and then you have two sets of these men. If there are thirty-three state societies, it will make sixty-six men who must be supplied with the TRANSACTIONS, and correspondence, etc. The adoption of this resolution would create an immense amount of work, and result in but little advantage to us.

Dr. Richardson: Don't put up any bars of restriction on your membership. It seems to me that this would be one of the best means to increase the membership. We are told that there are

thirty-seven societies, and that these copies of the TRANSACTIONS cost but little over sixty cents each, which would place the whole expense at about thirty-five to forty dollars. We are told that these gentlemen who occupy these positions would go out of office, and their successors would get the TRANSACTIONS. Well, let them. I feel that these TRANSACTIONS placed in the hands of a non-member are no loss to us. The nature of the TRANSACTIONS is such that it may induce him to become a member of the Institute; and if he goes out of office before he receives his copy, it may induce him to join in order to get the next year's book. Let us open the doors and invite all good men to come in. Men who are elected presidents and secretaries of state societies are certainly most desirable men to have in this Institute. They are men who would not most assuredly stand back for a paltry five or seven dollars.

Dr. Porter: I have talked with Dr. Talbot about this matter, and I am willing, of course, to leave the decision to the Institute; but, concerning expense, I can say something definite. You will add to the membership of the Institute the honorary membership; if there are 33 state societies you will add 66 names. In estimating upon the number of TRANSACTIONS each year I would have to include those 66 in the total number that I gave to the publisher. The original number of volumes issued by the publisher of the TRANSACTIONS cost something like $2.00 a volume. There is no question of 67 cents in this at all. Dr. Dudley informed you correctly that extra copies would cost you about 67 cents. This was in accord with the original estimate of the publisher. But when I came to get the extra copies they cost me very nearly $2.00 a piece. So you will be much nearer the mark if you assume that the cost will be nearer $135 rather than $35.

Dr. Talbot: A very large proportion are already members. Every president and secretary of state societies in New England, I think I am correct, is a member of this Institute. He would not be entitled to an extra copy. It would not be furnished him simply because he is president or secretary of his state society. This Institute is not the Institute of Detroit, or the Institute of Michigan, or of the United States. It is the Institute of the World. It is the central power of Homœopathy—of the whole world. I think it would be a very wise measure to bring in these societies by their principal officers. They will strengthen the Institute. They will look over the statistics of the Institute as they may pertain to their own state, and it will encourage them to greater zeal and effort in behalf not only

of the Institute, but of the profession of Homœopathy itself. It is going to make this Institute stronger than it has ever been before. It is a trifling matter of a few dollars, and the actual good resulting from this measure would many times outweigh the expense.

Dr. Kinne moved that the whole subject be laid upon the table.

Motion lost.

Dr. James's amendment to refuse the TRANSACTIONS to such honorary vice-presidents and secretaries as are not members of the Institute, was then taken up and not concurred in.

The recommendation of the committee was then called for and carefully read by the Secretary.

Dr. H. M. Smith desired to know what will be the status of such honorary members? Shall they occupy the floor? May they take up the time which rightfully belongs only to active members? Do they come here and meet with us? Do we give them all the privileges? Do they serve on any committee?

The question was called upon the original recommendation, and it was found to have been carried in the affirmative.

The third and fourth resolutions were carried.

On the fifth resolution, Dr. Kinne asked for information: Is that to take the place of what is being annually reported by the Committee on Registration, Statistics and Organization?

Dr. Talbot: It is to assist that committee merely. They are to work in conjunction.

On being put to vote, this resolution was carried.

The sixth resolution being put, Dr. Kinne said he was opposed to it for the reason that we have been steadily cutting down our standing committees; now you seek to create a new one. You take from the sections time that is far more valuable than would be the creation of this standing committee. You are putting up a standing committee when work which these state societies would do would be to assist the Committee on Registration, Statistics and Organization, and report to a committee which is already a standing committee. In the state to which I happen to belong, the officers of the state society are not willing to be members of this Institute, and yet you propose to make them honorary vice-presidents and give them gratis the TRANSACTIONS of the Institute. I am opposed to the creation of a standing committee when there seems to be no need for it, and no work for them to do.

Dr. Talbot: It is for the express purpose that we may have this committee from year to year; not appointed this year and left off

the next. It will do the very work that another committee has been doing—the Intercollegiate Committee—in a small way. It is a help to many of our other standing committees. It is for the express purpose of encouraging correspondence from all these societies, and to get them to work with us and for us. I believe this is the most economical and practical way that we can accomplish this object. They will report, not as the Intercollegiate Committee, of course, but as assistants in a very valuable way, being directly upon the field and careful to observe the condition of Homœopathic progress and success.

Dr. MacLachlan: Although I introduced this resolution, I have not been able to attend the committee meetings. This to me is the outlining of some of the most important work that this Institute has ever taken up, and if any of you will consider the history of the Intercollegiate Committee of the past, you may see it enforced by the Committee on Medical Education and on Medical Literature. As a matter of fact, has not that committee—the Intercollegiate Committee—brought the colleges and faculties together so that they have been co-laborers and collaborators to the same end and object? Has it not unified this work? Has it not brought them together to a uniform course of graded study? Has it not accomplished all this by steady, persistent work? We cannot attach too much credit to the distinguished chairman of the Intercollegiate Committee—Dr. I. T. Talbot. There seems to be a laxity in the work of this Institute in its relation with the state societies of this country. You can see that this matter of Interstate Committee will extend finally not only to every one of the state societies, but it will also extend to the legislation of this country. Here we have all through this country various legislative boards, some with three boards others with but one, and I am sure that in time this Interstate Committee will aid us in bringing about a uniform system of legislation. I want this to be made a permanent committee.

Dr. Kinne raised the point of order, that the whole matter is illegal and unconstitutional. This recommendation requires that a standing committee be composed of two members who are delegates from the several state societies; it doesn't limit them—whether they shall be members of the Institute or not. They are to constitute a standing committee for a definite work. Your By-Laws state what standing committees we shall have.

The President decides that the point of order is not well taken, because they are to be members of this Institute. I would put it

upon the same basis as the appointment of a special committee; for instance, the Committee on Transportation from year to year; that is a standing committee, and the same with others. So I will rule that we can appoint special committees other than those appointed or designated in the By-Laws.

Dr. Kinne appealed from the decision of the chair.

The President put the appeal to the Institute and was sustained in his ruling.

Dr. Kinne reiterates his charge that this Institute has no authority to appoint another standing committee except by an amendment to the By-Laws, and requests that his objection to the ruling of the President and the Institute may be made a matter of record.

Dr. Custis says it will be found by the By-Laws that these societies are invited to send delegates here; but we have given them no opportunity to take any part in the proceedings. This simply provides that while holding out this hospitality to them, that the work of the committee will be confined simply to the gathering of statistics. That is a very simple matter. The business of this Institute is more important than any sectional bureau, because it is the only opportunity for all the members of the Institute to meet together and consider together the ways and means best to be adopted to their own advancement and advantage.

Dr. Talbot calls attention to the nearness of the hour for adjourning and asks that the time be extended by suspending the rules until this matter may be settled. So ordered.

Dr. Kinyon: I can see much advantage to accrue to us by the use of the secretaries in these state societies as being the source through which to get much needed information. Each secretary would, of course, know his own membership, and likely also the profession of his state. So that by writing to him our officers could gain information which could not be otherwise gotten except at great expense and labor.

The question being called upon the adoption of this resolution making this committee a standing committee, it was put to vote and declared carried.

The fifth and sixth recommendations were carried without opposition. And then the whole report was adopted.

Committee on Retrenchment.

The Committee on Retrenchment now resumed its report, with Dr. Kinne as chairman.

Dr. Dudley: I am in favor of continuing to send reports of the scientific discussion to the members for revision; but I am equally opposed to sending to them the reports of the business division; because a large amount of our discussions are on business matters that are hardly worth the printing. That is there are matters that are not necessary to be recorded in subsequent years for the purpose of giving information to the Homœopathic profession. I am opposed to it for that reason. And again it interferes very seriously with the printing of the TRANSACTIONS, keeping it back sometimes for two or three months. It prevents the printing office from getting to work in the summer months. I have during July and August had the printers send up to me every day or two, begging me to send them some work. I couldn't help them because the discussions were still held by some of the debaters. For years we did not print the discussions of the business sessions.

Dr. Kinne: It will teach those who take part in the discussion to revise and return their papers within the time or run the risk of being cut out entirely. So far as the secretaries are concerned—as to the amount of labor—they will be no better off than before. It is advised in the interest first of economy in the printing, and second for the expediton of the printing of the TRANSACTIONS.

Dr. James: The Institute at Washington decided to have these remarks all printed and revised in this way.

Dr. Delamater called attention to the reading of Section 5, and moved to insert the following: "Who shall be required to return them within one week after their sending by the Secretary."

The question being demanded, the President stated the proposition clearly, to the effect that when changed as desired by the committee, the debates in the scientific sections will be sent to the authors for revision, but not the debates in the general or business sessions. In other words, by inserting the word "scientific" before the word "discussions," and omitting the words "or debates" in the fifth line of Section 5 of the By-Laws, this purpose is subserved. So that Dr. Delamater's motion is in the form of a substitute for the recommendation of the committee.

Question is put upon the substitute and adopted.

Dr. Kinne calls for the sense of the Institute upon the next recommendation of his committee, having relation to the appointment of a Committee of Publication separate from the Executive Committee. Put to vote and carried unanimously,

Dr. Kinne calls for the recommendation having reference to the

publication of the list of deceased members annually in Section 4, of Article VII. of the By-Laws. This also was adopted without debate. The whole report as amended was then adopted.

Dr. Kinne, on behalf of the Committee on Resolutions, presents the report of the Committee on General and Sectional Meetings as follows:

REPORT OF COMMITTEE ON GENERAL AND SECTIONAL MEETINGS OF THE INSTITUTE.

Your committee has the honor to report that they have carefully considered the subject referred to them, and that in their judgment the field of medicine and surgery has grown too broad to be profitably considered at any one Institute meeting, and that the relegation of a large portion of the work to sectional consideration by reason of a conflict of time, prevents many members from participating in the work of bureaux which may be in progress at the same time.

To overcome these limitations your committee would recommend, therefore, that more time be allowed to each section before the whole Institute, and that no section be allowed under any circumstances to encroach upon the time allotted to another, if the latter be ready to report.

They would recommend further, that the report before each section of the Institute be confined to a single theme, which will be chosen by the chairman of the bureau, the President of the Institute, and the General Secretary, and which will follow the presentation by the chairman of the bureau of the year's progress in the department which the bureau represents. The latter address may not exceed half an hour in its presentation.

It is further recommended that sectional meetings be held at such other times as will avoid conflict of time, as far as may be, with Institute meetings; and at these sectional meetings such other more technical papers may be presented as the bureau and its chairman decide upon. They further recommend that the time allotted for the sectional meeting shall be upon the same or following day as that on which the bureau is presented before the Institute.

It is further recommended that the hour for business shall be 12 o'clock, noon, instead of at the beginning of the morning session, as heretofore.

All of which is respectfully submitted,

F. PARKE LEWIS, *Chairman*,
RACHEL J. DAVISON,
C. B. KINYON,
E. C. MORRILL,
E. H. PORTER.

It was moved and seconded that the report of this committee

be accepted and referred to the Executive Committee, and then to the Committee on Publication.

Dr. Talbot: Does this carry with it the adoption of this order of exercises?

Dr. Dudley stated that it does not.

The Board of Censors presented a number of names for action of the Institute. On motion, the same were duly elected.

Dr. Porter moved that the poem of Dr. T. P. Wilson be referred to the Committee on Publication. So ordered.

Dr. Kinne moved that the Secretary of the Institute be instructed to send a telegram of greeting to Dr. Louis Hallock, the only surviving original member of the American Institute of Homœopathy. Also similar telegrams to Dr. A. R. Wright, of Buffalo, one of the older members of this Institute, and to Dr. J. C. Boardman.

Dr. B. F. Bailey introduced Dr. Griggs, of St. Paul, who addressed the Institute upon the feasibily of chartering a lake steamer for the next meeting of the Institute. His idea was to take a trip through the lakes, picking up the members at the different ports and hold all the sessions on board. Dr. Griggs had already wired the proper parties, and learned that the company would not charter a vessel, but would reserve all berths for the Institute until all were taken, and give the round trip, everything included, for $40, provided that there be 200 passengers.

On motion, this was referred to the Executive Committee.

Dr. Ludlam remarked *en passant* that if our President can be captain of the boat, there would then be no room for sectional feeling. It would be a good idea, perhaps, to have all the quacks on the water at once.

Dr. Kinne moved that a final session of the Institute be held at 6 o'clock P.M. Carried. The general session then adjourned to that hour.

SEVENTH DAY—EVENING SESSION.

At 6 o'clock the remnant of the Institute gathered for a last and closing session. The Board of Censors made its final report.

The centennial addresses of Drs. Foster, Van Denburg and Sutherland were then presented to the Institute, accepted, and referred to the Committee on Publication.

The reports of chairmen were then received from the Sections in

Materia Medica, Obstetrics, Pædology, Ophthalmology, Otology and Laryngology, Surgery, Neurology, Gynæcology and Sanitary Science. The report of the Section in Clinical Medicine is missing.

A summary of these reports shows that all the sections held two sessions, and read and discussed from 6 to 10 papers. Sanitary Science discussed 10 papers, while the Section in Materia Medica discussed only 6. The other sections averaged about 8 papers read and discussed. The attendance at most of the sectional meetings was very satisfactory.

The Acting Registrar, Dr. H. C. Aldrich, stated that there had been registered 297 members and 394 guests, making a total attendance of 691.

Dr. Delamater presented the following resolutions, all of which were adopted without a dissenting voice:

It is hereby resolved by the American Institute of Homœopathy in convention assembled in the city of Detroit, That we owe a debt of gratitude to D. A. MacLachlan, chairman, and his able and efficient colaborers on the Committee of Arrangements, for their untiring, indefatigable and successful efforts to make this, what it has been, one of the most pleasant and successful meetings of this body.

It is hereby resolved by the American Institute of Homœopathy in convention assembled in the city of Detroit, That our admiration and esteem is freely given to the local press for its uniform kindness, fairness and ability as shown in the reports that have appeared from day to day, and for many courtesies extended to us as a body and as individuals.

It is hereby resolved by the American Institute of Homœopathy in convention assembled in the city of Detroit, That it is with minds full of enthusiasm for this beautiful and clean city, and our hearts overflowing with gratitude, that we return our sincere thanks to His Honor, the Mayor, to the Comptroller and the officers and citizens of Detroit for all they have done to make our stay among them pleasant, enjoyable and to be remembered by us through the many years to come as among the very best of convention cities that have entertained us.

The resolution of Dr. Cowperthwaite in reference to the Omaha visit was as follows and adopted unanimously:

Resolved, That while the American Institute of Homœopathy cannot under its rules definitely decide upon its place of meeting for 1898 at this time, nevertheless it is the sense of those present that we will accept the invitations offered and meet in the city of Omaha in 1898. Also

Resolved, That the American Institute extend its congratulations to the Governor of Nebraska, Mayor of the city of Omaha, the trans-

Mississippi officials and the secretary of the Commercial Club, of Omaha, and thank them for their kind invitation.

Dr. H. M. Smith announced that the ladies of the Meissen had contributed $25 to the Hahnemann monument fund, and coupled it with the suggestion that the Institute members each in his own locality could do much if they would enlist the ladies of their patients to form committees for the purpose of devising ways and means to complete this monument fund.

On motion of Dr. Kinne the thanks of the Institute were tendered to the ladies of the Meissen, and a promise given that the suggestions made, which are so eminently practicable, will be put into service as soon as the membership reaches home.

Dr. Kinne: I move that the Institute thank itself for electing and working under our estimable President, Dr. Pemberton Dudley; and that we also thank him for the courteous manner in which he has treated us, his erring children.

This motion was put by the General Secretary and unanimously carried.

The *Medical Counsellor* notified the Institute that it will be able to contribute between $15 and $20 to the Hahnemann Monument Fund. Thanks were voted to the *Medical Counsellor*.

The President then appointed the Committee of Local Arrangements.

Dr. J. B. Gregg Custis then offered the following resolution:

WHEREAS, There is a lack of harmony in the general standards of academic education, and especially in their application to the preliminary requirements for entrance into the various medical schools under the patronage of the American Institute of Homœopathy, therefore be it

Resolved, That the Intercollegiate Committee be authorized to appoint a committee to confer with the various preparatory and academic institutions of the country, with the view of formulating a special course preparatory to entrance into medical schools, and that the committee report the results of their work to the Institute at its next meeting. And be it further

Resolved, That it confer with the several medical colleges, with the view of securing entire uniformity in the standard of education required for entrance upon the course of such medical colleges.

Unanimously carried.

Dr. B. W. James offered the following resolution:

Resolved, That the recommendation of last year's Committee on

the Centennial of Homœopathy, that a free bed in perpetuity be established in each of our hospitals in honor of the event, be, and is hereby urged to be carried into effect, and when established, that the Committee on Organization, Registration and Statistics be notified, and that this committee make a report next year of all institutions complying with the request.

The President then announced the chairmen of committees for the coming year.

Dr. Peck announced that he had been able to turn over to the Hahnemann Monument Fund a check for $135, being the balance on hand collected by the local Committee of Arrangements last year at Newport.

A vote of thanks was given Dr. Peck and his indefatigable assistants.

At 6.35 P.M., Detroit time, Dr. Kinne moved that the Fifty-Second Annual Session of the American Institute of Homœopathy do adjourn *sine die*.

Before putting the question, the President, Dr. Pemberton Dudley, addressed the Institute in a few feeling words, thanking them for their kindness and uniform courtesy and forbearance. Then the gavel fell, and the Detroit session of the Institute was at an end.

THE

HAHNEMANN ORATION

AND THE

CENTENNIAL ADDRESSES.

HAHNEMANN ORATION, . . . PEMBERTON DUDLEY, M.D.
CENTENNIAL ADDRESS, . . . R. N. FOSTER, M.D.
CENTENNIAL ADDRESS, . . . M. W. VAN DENBURG, M.D.
CENTENNIAL ADDRESS, . . . J. P. SUTHERLAND, M.D.

1796—Hahnemann—1896.

By Pemberton Dudley, M.D., President of the Institute.

Civilization marks her progress not by dates, but by deeds—not by the rolling of the terrestrial sphere, but by the flaming forth of light and warmth from hearts pregnant with celestial fire. She takes no note of time, save as it marks the uplifting of man, and counts no deeds worthy of remembrance but those which arouse lofty admiration, excite heroic purpose, or minister to human well-being.

So far as history has yet been made, the contemporaneous estimate of the world's worthies has been almost invariably too low. Scientists, discoverers, philanthropists, prophets, the world's uplifters, one and all, tell the same monotonous story of oppression and outrage, of the rack and the scourge, the dungeon and the cross. Or, escaping these extremes of persecution, they unfold a tale of social ostracism and public malevolence, of enforced poverty and privation, of daily, living martyrdom. This reiteration of the story of shame and wrong is unfortunate, and yet it is the natural consequence of the conditions and circumstances that have made these noble lives a necessity to human progress and given them impetus and incentive. But for the idolatries of Baal there was no need of an Elisha; no need of a Voice to cry in the wilderness, had every path been straight and every highway plain. But the ignorance, the error, the sin, that forces the outcry—this it is that sheds the Messenger's blood and drives the Prophet to a hiding-place in forest or mountain.

The world seems to have been conscious of the in-equity of the estimate it has placed upon the lives and services of its great men, for it has sought to excuse contemporaneous abuse by promising that posterity would do them justice. How this cheap posthumous recognition is to benefit these dead heroes does not clearly appear. As posterity usually measures out her appreciation of departed worthies, not by what they did for the past, but what their influence is doing for the present, the old debt remains for ever unpaid.

In the life and experience of Hahnemann, history was but con-

tinuing itself. The doctrine he proclaimed was too antagonistic to the teachings and practice of his age to permit his escape from the common experience of reformers. The application of Hahnemann's Homœopathy, like that of Franklin's electricity, was not to attain at once its full development, and it was not possible that it could in a few years supplant an error which had been striking its roots deeper and deeper in the subsoil of prejudice and professional pride for twenty-two centuries.

But whatever may be the world's ordinary treatment of its great men, that accorded to Hahnemann was extraordinary. In the annals of science and art, indeed, it was unprecedented and unique. No medical man that ever lived has been so little understood or so profoundly misunderstood. There is not a single important doctrine to which he gave utterance that has not been grossly misunderstood and grotesquely misrepresented. There never was another physician so venerated or so derided; so honored or so despised; so admired or so ridiculed; so reverenced or so villified; so loved or so hated. No physician ever wrought so toilsomely, none so self-sacrificingly, for the good of his fellow-man, and none was ever so vigorously cursed for his pains. Never was there one who brought richer material blessings to his fellow, or who was more roundly execrated and imprecated and Billingsgated; never one who cherished a more fervent enthusiasm for the profession of medicine, and yet aroused so intensely the animosity of its representatives.

Neither does there seem to have been any period of his life, or any effort of his intellect, any labor to which he gave his powers, or any investigation he pursued, any discovery he made, or any social, domestic, or professional relation into which he entered, in which he was not made the object of calumny and abuse. As a student and as a practitioner, as a translator and as an original writer, as a chemist and as a surgeon, as an investigator and as a discoverer, in every relation he met the same experience—misrepresentation, vituperation, villification. And not only himself, but his wife, his children, his disciples, his patients, his friends, the government officials who dared to protect him, and the towns and cities that presumed to shelter him, not one of these escaped a measure of the maledictions and anathemas that were thundered against his person. The resources of invective were well nigh exhausted for epithets wherewith to assail him. He was denounced as uneducated, ignorant, illiterate; as a dreamer, a visionary, a lunatic; as a mountebank,

an imposter, a swindler; he was charged with ignorance of anatomy, physiology, and pathology. It was said that he wrought out a theory in his own brain, and then ransacked the libraries for material to sustain it; that his doctrines were works of darkness, and their author a fiend from the pit; that he prevented himself from being a great chemist by becoming a great quack; that he was a juggler, a humbug, a deceiver, a fool, a buffoon; that his system was destined to an early death, and was already rotting on the edge of its open grave; all these and numbers of other literary fragrances were showered upon him during his life, and upon his system and its practitioners along the whole course of its first century.

From all the facts thus presented it will be easily understood that it is almost impossible to speak dispassionately of Hahnemann without seeming to assume toward him the attitude of a champion and defender. Almost every important statement of fact that one can make respecting his life, his character or his work, carries with it an accusation of gross and glaring falsehood against some one or more of his detractors. Yet it is no part of the purpose of this address to attempt a refutation of these calumnies. They have long ago demonstrated their powerlessness to harm the venerated name of Hahnemann, or to arrest the progress of that art of healing with which, under God, he was permitted to bless the human race.

Because the world's reception of Hahnemann was unique and unparalleled, therefore to the student of social science Hahnemann himself becomes a phenomenon. There must have been something in the man, in his character, his work or his doctrines, so out of the common that it impelled his contemporaries, in their dealings with him, to lay aside the guidance and restraints of ordinary action. We must, at least, admit either that Hahnemann furnishes an unusual theme for the consideration of the historian and the socialist, or else that his persecution suggests a study for the psychologist, or perhaps the alienist. The world's treatment of Hahnemann, of course, cannot be justified; but can it be explained?

The one subject of special interest in connection with Hahnemann's childhood and youth is his education. Born in Meissen, near Dresden, in 1755, he spent several years in the public and private schools of his native village. His studies, which were interrupted at intervals, included Latin; Greek, Hebrew, English, French, history, physics and botany, besides the branches ordinarily pursued. At the age of twenty he went to the University of Leipsic with twenty "thalers" in his pocket. All the funds neces-

sary for his support and education from this time forth were earned by the young hero by teaching German and French and translating. He had already conceived a predilection for medical studies and made use of every opportunity for acquiring knowledge in its various branches. During the two years in Leipsic he translated five medical volumes from English into German. At twenty-two he went to Vienna to pursue his medical studies, and afterwards received an appointment as family physician and librarian to Baron von Bruckenthal, the Governor of Transylvania. Here he catalogued the baron's immense collection of books and rare manuscripts, and, as said by his biographer, "here he acquired that extensive and diverse knowledge of ancient literature and of the occult sciences of which he afterwards proved himself to be a master, and with which he astonished the literary and scientific world." He finally received his medical degree at the University of Erlangen in August, 1779, at the age of twenty-four. He had succeeded in acquiring that general information common to the well-educated German youth of his time, together with a knowledge of medicine; besides which he had (at the age of twelve) been entrusted to teach the rudiments of the Greek language in the Meissen school; he had prepared an herbarium of the plants of his native Saxony; had translated numerous volumes for the German publishers; had catalogued one of the largest private libraries in Europe, and arranged a "matchless collection of ancient coins;" had familiarized himself with the general scientific literature of the ancients and had acquired a practical working knowledge of ten languages—Latin, Greek, Hebrew, French, German, English, Spanish, Italian, Arabic and Syriac, and a rudimentary acquaintance with Chaldaic. This is the man who has been repeatedly described in medical literature as an illiterate ignoramus.

Whether we accept or reject the theory that Hahnemann was raised up by Providence for the work to which he devoted his energies, it is not difficult to find evidence that almost every event and circumstance of his history seemed to adapt the man for his work, or to compel his devotion to his task, or to secure the needed facilities and opportunities for its accomplishment. His birth and parentage, his passionate fondness for literary and scientific studies, the poverty of his youth and mature manhood, the intense integrity of his moral character, his deep religious convictions, the independent and critical quality of his mental activities, his wonderful

memory, his broad intellectual grasp of great questions, his unusual mastery of multitudes of details, his fondness for accuracy and completeness in observation and expression, his powers of analysis and classification, the antagonisms that he endured, the difficulties he encountered—in short, every quality and condition that distinguished or environed him—seemed to enter into combination to adapt and complete the worker and to assure the progress and consummation of his work.

But Hahnemann's training for his great work was, even yet, not complete. He was learned in the "wisdom of the schools," but the main task of his life was to be wrought almost entirely outside these scholastic limits. He needed an education of a thoroughly practical sort, and we know how he obtained it.

His biographers—one of them being himself—have informed us that after his graduation he spent a brief period in the copper-mining region of Hettstadt, in Saxony, and that in 1781 and 1782 he was living at Dessau, engaged in the study of industrial chemistry and of mining and smelting, at the same time following his chosen profession of medicine. He soon became widely known as an original investigator in chemistry and added immensely to the world's useful knowledge of that art. In order to estimate Hahnemann's services to the world in this field, we must consider the status of that branch of knowledge at the period of his principal chemical labors and discoveries. For this information we are largely indebted to the historian, Ameke, of Berlin.

Strangely enough, the old doctrine which prevailed before the Christian era—that all matter is composed of four elements: fire, air, earth and water—came down to the close of the eighteenth century. The last three decades of that century witnessed a bitter controversy between the adherents of that ancient view, or a modification of it, and those who were beginning to perceive its fallacy. The particular form of the doctrine as it was then held was ascribed to Stahl, but was in reality an offshoot of the theory held in the days of old Aristotle himself. One astute writer declared that water does not belong to the elements, because the Bible says that "in the beginning God created the heavens and the earth," but that it makes no mention of water, and that, therefore, water is but a modified form of earth, rendered fluid by warmth. Becker, in the seventeenth century, had written of what he named the "inflammable principle," and Stahl afterwards wrote learnedly about it, but changed its name to "phlogiston." It was, under both

names, the same old elemental "fire" of Aristotle and Hippocrates. Any thing that would burn contained phlogiston. Ignition, or flame, was the escaping phlogiston. Chemists were busy trying to resolve water into earth and searching for the "fundamental essence" of matter; and there were still a few alchymists striving to transmute the baser metals into gold. Scheele was endeavoring to extract the coloring matter from Prussian blue; Westrumb was discovering, or thought he was, that acetic acid was the basis of all the vegetable acids, and was asking whether phosphoric acid lies concealed in nitric acid. Winterl made experiments which, he said, showed that copper consists of nickel, plumbago, silica, carbonic acid and a substance which passes off in boiling. Kirwan held that muriatic acid was composed of carbonic acid *plus* phlogiston; and so the whole department of chemical learning was borne down by a limitless avalanche of theories and speculations which had their only basis in the vain conceptions of their promulgators. Such was the so-called science of chemistry in the early days of Hahnemann's active career. We may be very sure that the so-called science of medicine was in an even worse plight.

But in one particular chemistry was about to outstrip her sister art of medicine. The famous French chemist, Lavoisier, had introduced into the art an entirely new factor—the balance. He had demonstrated that in all chemical operations and processes there is neither a gain or a loss of weight of the materials concerned in the operation. He proved that water is not a kind of earth, but is composed of two distinct elements, oxygen and hydrogen, and he administered a death-blow to the doctrine of the ancients, that fire is an element of material nature. Perhaps the most important of all his services was the introduction of accuracy and exactitude into chemical researches, precisely as Hahnemann did into medical investigations. In this particular Lavoisier was to Chemistry what Hahnemann became to Medicine.

Between the followers of Lavoisier's exact methods and doctrines, on the one side, and the advocates of the old "phlogiston" theory, on the other, there arose a bitter contention. Hahnemann, who had already made a reputation for himself as a chemist, insisted that there could be no solution of the questions at issue except by exact experimentation. This proposition of the great chemist is significant, because it is in strict keeping with his subsequent career and record as a medical investigator. This chemical controversy did not assume the virulent type of the antagonism that

arose against the reformation in medicine. Hermbstadt, it is true, complained that he had often advocated the new chemical doctrine at the expense of his honor and good name, and had been "more than once saluted as a 'quack,' an 'imbecile,' a 'propagandist' and an 'anti-phlogistic town-crier';" and history records that Lavoisier himself, in 1794, fell a victim to the diabolical madness of the French revolution. There is no good reason, however, to believe that his peculiar chemical doctrines had any influence in bringing about his butchery by Robespierre. Prof. Gren said that his principal objection to Lavoisier's system was that "It opposes obstacles to the progress of natural science." It is a little curious that Hufeland couched one of his objections to Hahnemann's doctrine of Homœopathy in almost the same language, saying that "It would have an injurious effect upon the study of medicine." That these two reformations, occurring almost side by side, did call a halt upon the heedless elaboration of baseless theories, is their crowning commendation. It was precisely what was needed.

Among the more important services that Hahnemann rendered to the science and art of chemistry, the following may be enumerated:

In 1784 he translated Demachy's two-volume French work on the "Art of Manufacturing Chemical Products." This work was originally published by the French Academy, because it revealed many of the processes of industrial chemistry which had been kept secret by manufacturers, and particularly by the Dutch. Both France and Germany needed the knowledge of these secrets, and it is mentioned as an additional service rendered by Hahnemann that by *his* translation he not only gave this important information to his countrymen, but added numerous notes and suggestions for improving and extending the knowledge of industrial chemistry until, in the language of one of his reviewers (Crell's *Annalen*), "The notes are greater in amount than the text, and more important." The work, in the original, abounds with errors, many of which Hahnemann pointed out and corrected. In many places the author's obscurity of statement is cleared away and his incompleteness supplemented by Hahnemann's wider acquaintance with the subject. Hahnemann described an improved apparatus, invented by himself, for testing the specific gravity of liquids, and a method for improving the draft in chemical furnaces. He suggested changes, which were afterward adopted, in distilling apparatus; gave accurate directions to the potter and mason for constructing, shaping

and setting special retorts; contrived a special mode of distilling *aqua fortis* by which the retorts were prevented from bursting; proposed a new and better method of purifying saltpetre; introduced new tests for muriatic and sulphuric acids; indicated a means of separating magnesia from the brines of salt-works; determined, carefully and accurately, the solubility of numerous salts at different temperatures; discovered, for the first time, that white lead is a combination of metallic lead and carbonic acid, and not of lead and vinegar, as had been supposed; he was also the original discoverer of the chemical change necessary for the conversion of alcoholized liquids into vinegar. And, neither last nor least, he advocated the crystallization of tartar emetic for the purpose of securing a standard of reliability for that important medicine. This procedure is now universally employed in pharmacy.

These are a few—only a few—of the valuable contributions made by Hahnemann to chemistry and industrial technology. His name, however, is rarely mentioned in chemical literature in connection with these discoveries, partly because certain writers have been interested in keeping the discoverer's name from the knowledge of the world and partly because others have been so intent in blazoning his more brilliant exploits in the field of therapeutics that they have almost lost sight of his services in other departments of human achievement.

There are two other services rendered by Hahnemann to be mentioned before we take up his original investigations on therapeutics —namely, his treatise "On Poisoning by Arsenic; Its Treatment and Judicial Investigation," and his discovery of the "Wine Test." He began his investigations relating to arsenic by showing that the tests usually employed were unreliable. He next made a series of experimental studies of the subject, which resulted in the demonstration of the value and reliability of three essential tests for this dangerous drug. These tests were lime-water, aciduated sulphuretted hydrogen-water and the ammoniaco-muriate of copper. Water impregnated with sulphuretted hydrogen had been previously used for the purpose; but its actionwas extremely uncertain until Hahnemann hit upon the expedient of acidulating it, thus rendering it one of the most delicate and efficient methods yet known to science. Hahnemann was also the first to employ alkaline solutions—the chief method still resorted to—to distinguish arsenic, antimony, etc., from mercury, copper, etc. Still further, in the manner always characteristic of his methods, he determined accu-

rately the limit of activity of all the agents he employed. These investigations added immensely to the existing knowledge of medical jurisprudence as it relates to criminal poisoning by the compounds of arsenic, and the knowledge thus gained is universally employed to-day.

The second of these special discoveries for which the world is indebted to Hahnemann is what has been known as the "Hahnemann Wine-Test." In those days wine was frequently adulterated with sugar-of-lead, giving rise to colic, emaciation, paralysis and sometimes death. The serious nature of these results naturally aroused a strong public sentiment against the adulterators, and whenever they were detected they were subjected to severe penalties. Unfortunately, the tests that were employed to detect the presence of lead yielded the same results in the presence of other metals. A case is cited in which a merchant suffered a heavy penalty and the loss of his business because of the presence of iron nails in his wine casks, and similar judicial errors were said to have occurred quite frequently. On a certain occasion a large number of merchants were to be tried for adulterating their wines with lead, and Hahnemann determined to discover, if possible, a method by which lead, iron and other metals in alcoholic and watery solutions could be accurately distinguished, one from another, that the innocent might no longer be compelled to suffer with the guilty.

There is no need to recite here the story of his investigations and experiments. It is sufficient to say that he soon found that one of the tests he had discovered for the arsenical compounds—water saturated with sulphuretted hydrogen—yielded a precipitate of sulphide of lead, or of iron, as one or the other of these metals might happen to be present; but he also learned—and herein consists the peculiar value of his discovery—that the addition of a few drops of sulphuric acid redissolved the iron precipitate, while it simply deepened the dark yellow color of the precipitate of lead. German jurisprudence was thus supplied with an unfailing resource for distinguishing noxious adulteration with lead from the inadvertent and harmless presence of iron. Either in the same year or the year following (1788 or 1789) Fourcroy, a famous French chemist, recommended sulphuretted hydrogen as a test for lead in wine; but Fourcroy knew evidently no method for distinguishing lead from iron, and the best he was able to do was to detect the presence of lead in the proportion of one part in one thousand, while Hahnemann's method showed its presence in the proportion of one part in thirty thousand.

The whole story of the "wine test" has not yet been told. The experimentation showed that the method was also useful in demonstrating the presence of antimony, silver, mercury, tin, bismuth and perhaps other metals; and while there is no longer any necessity for employing it in the judicial inspection of wine, because the practice of lead adulteration has long since died out, yet it is in daily use as an indispensable agent in every chemical laboratory and in multitudes of industrial establishments throughout Europe and America. Probably not one in a hundred of these chemists, manufacturers and pharmacists who are employing it every day have the slightest suspicion of the fact that it originated with the same individual as did that peculiar mode of medical practice known as Homœopathy.

We have not mentioned—nor is there time to do more—Hahnemann's services as a surgeon, as a public sanitarian, or as one of the very earliest advocates, if not the pioneer, of the substitution of kindly and humane methods of treating the insane for the barbarous and cruel methods of his predecessors. In all these departments of service he won a place among the progressive practitioners of his time.

We now approach a far more important and interesting part of Hahnemann's life and work—his career as a medical investigator and the astounding results of his researches.

It must be borne in mind that at the period of which we speak—1780 to 1810—Hahnemann stood as a recognized associate of the leading savants and literati of Europe. In matters pertaining to industrial technology, chemistry, surgery, pharmacology and medical practice, as well as in the languages and learning of the ancient world, he had vindicated his right to form and express an opinion. When he spoke on any of these subjects, men of learning gave him respectful attention. The scientific journals of that period abound with laudatory allusions to his name, to his observations and discoveries as a chemist, and to his critical translations of medical and chemical works. It is not to be wondered at, therefore, that the enunciation of his new medical doctrine in 1796 aroused the curious and eager attention of all Europe. Had their author been the obscure and unlettered man that certain American writers would have us believe, it is not probable that they could have excited such wide-spread attention or elicited such a storm of criticism. As Ameke expresses it, "Amidst the confusion of hypotheses and speculations, a weak voice would not have been listened to."

While the medical practice of Hahnemann's day was immensely

superior to that of the preceding centuries, the mode of medical thought did not differ in its essence from that which prevailed in the time of Hippocrates, four hundred years before the advent of Christianity. Lest this statement should be considered extreme, let us be somewhat specific. And first let us institute a brief comparison.

Twenty-two centuries apart, there stand two figures ever to be prominent in medical annals—Hippocrates of Cos and John Brown of Edinburgh. The one is lauded as the "Father" of that "Rational Medicine" which is said to have come down to our own day. The other is the author of the most popular of the "systems" of medical practice in prevalent use a hundred years ago. Take these two distinguished men, or rather take the basis on which their "systems" were founded. In what essential respect do the modes of their conception and propagation differ? In order to answer this question clearly it will be needful to mention briefly a few of the systems or theories prominent in the intervening period.

Pythagoras (B.C. 500) probably originated the doctrine that the four elements—fire, air, earth and water—composed the human body. At least he originated the doctrine that disease consists of a lack of natural harmony in the proportion of these elements. That was his "pathology." It was not a very "scientific" pathology, but he made it the basis of his medical treatment, and that constituted his treatment "rational," as the term is understood to-day. That is, he had a "basis of reason" for his treatment, and the whole medical profession, of all schools, since that day, has plumed itself upon the "rational" quality of its medical treatment. One hundred years later Hippocrates of Cos conceived the idea that the body is subject to four conditions: heat, cold, moisture and dryness, and that disease originates from variations in these conditions. This "theory" was his guide to treatment, and we call him the "Father of Medicine." His followers originated the conception of the "four humors," and from their "humoral pathology" devised a humoral treatment. Next, disease was said to be due to a "materia peccans," and the treatment must, forsooth, drive this offending matter out of the body. Following this theory came Asclepiades, of Bithynia, with his beautiful conception of a system of invisible pores permeating the body, and of diseases arising from obstruction or relaxation of these pores, together with a system of medication designed to remedy the porous difficulty. And thus we might go on to speak of Themison and his "Methodistic"

school, of Agathinus and his "Eclectics," whose doctrines embraced all the notions and theories gathered from the physicians of Egypt, Arabia, Greece, Assyria and the whole region covered by Roman conquest, and whose laurels were ruthlessly appropriated by his pupil, Galen, whose name, covered with unmerited glory, has come down to our own day, who sought out and gathered in other men's notions and discoveries, much as some of his disciples are suspected of doing in these days, but who probably never made an important medical discovery in his life. Every one of these men, and dozens more, conjured up some imaginary theory of disease and based thereon a "system" of treatment. Perhaps it really was "rational;" but let us see how this—the "medical thought" of that age—appears when examined in the light of what we call "modern" methods.

First, it will be easily seen that these so-called theories of disease —these conceptions of the "causes" of disease, of its "essence" or of its "conditions," had no foundation in observed facts. They were not inferences deduced from things seen, or heard, or felt; they were mere phantastic conceits evolved from the inner consciousness. They were not discoveries; they were inventions. They required no toil, involved no laborious research, came not forth through the travail of perilous experimentation. The originator of any one of them might have retired to his bed at night, conjured up in his fancy the whole of his beautiful scheme of disease and of its treatment, and have arisen in the morning refreshed as usual.

The second criticism that modern knowledge offers to this method of the ancients is: That their acquaintance with the real properties of drugs was too limited to enable them to apply these agents to the cure of disease, even had their "theories" of disease been correct. In other words, it was proposed, and perhaps expected, to obtain a certain specific result by applying an agent whose properties and powers were almost unknown to a condition or circumstance whose very existence was only guessed or assumed, and which had no basis of demonstrated fact to support it. This it is—so we are told—that constitutes Hippocrates, with his four elements, his four states and his four humors, and Galen, with his muck-rake, the "Fathers of Rational Medicine" unto this day.

It must not be supposed that these two were the only illogical features of this old medical proposition. There is another, more absurd than either, of which we will speak presently.

From the time of Galen, at the end of the second century, to the

close of the fifteenth century, there was little progress made in the art of healing diseases by medicines, save that a few new remedies had come into use and a few new properties had been observed in the drugs anciently employed. Of real scientific progress there had been none at all during the entire intervening period. We are speaking, not of anatomy, physiology, pathology or surgery, but of medicine proper—the healing of diseases by means of medicines. In this department there were in vogue the same crude, halting, stumbling, blundering, speculating, theorizing, dreaming methods as of yore. The whole history of medicine as a science was yet to be written. The Roman world had lapsed again into superstition, and the sick once more sought help in sacrifices, prayers, incantations, and the consecrated touch of the priesthood. Medicine and sanitation were alike neglected; men lived amid the perils of putrescent filth and unnamable vices, and, as a consequence that now awakens no surprise, contagions and pestilences raged among them and swept whole communities from the face of the polluted earth.

Before the end of the sixteenth century, Vesalius, Sylvius and Servetus had, by their researches, prepared the way for Harvey's demonstration of the circulation of the blood. From that time the study of physiology aroused universal enthusiasm, and, as a consequence, physiological dogmas became the bases of medical treatment. The later development of chemistry also had a share in these speculative results, one of which took the form of a theory of a struggle or contention going on in the body between the acid principles and the alkaline principles, and when the "acrimony" of the one prevailed over the "acrimony" of the other, disease resulted which must needs be treated by acids or alkalies, according as one or the other happened to be the "under dog in the fight." This was during the first half of the seventeenth century. Toward the middle of the eighteenth century, and near the time of Hahnemann's birth, Stahl advanced his hypothesis that the protective power of the body is a rational and thinking soul, recognizing the invasion of disease and directing the forces of nature to resist and expel it. The soul was the healer of the body, and medical treatment was almost discarded. Stahl seems to have come very near to being a Christian Scientist, exhibiting the necessary dearth of science and the requisite scarcity of Christianity.

Thus we see that whatever happened to be the fashion in the world of thought was promptly made the basis of medical treat-

ment. And now, leaving out of notice the long succession of fanciful theories respecting disease and the absurd modes of treatment designed to accord with these theories, we come down to Hahnemann's time and naturally ask ourselves the condition of medicine at that most important period. We find two names prominent, Cullen and Brown, and they were rivals. Cullen made himself believe in the old doctrine of spasm and atony as the causes of disease, and adapted his remedies to that view. Brown, infatuated with Haller's recent discovery of what is known as the "irritability" of muscular fibre, devised the ingenious doctrine that all diseases are due to either an excess or a diminution of the natural irritability of the body, and that, therefore, remedies should be of two kinds, one to antagonize each of the resulting conditions.

Now, let us return to a question asked earlier in the course of this address—namely, taking Hippocrates of Cos and John Brown of Edinburgh standing as prominent medical figures twenty-two centuries apart, the one four hundred years before Christ, the other eighteen hundred years after Christ, we ask, In what essential respect do the modes of their medical thought differ? In the development of medicine as a science, in what particular does the method of the latter physician show any advance or improvement upon that of the former? Hippocrates, from what he knew of the facts and phenomena of nature, constructed a theory of the "essence" of disease. So did Brown. Hippocrates made no researches nor instituted any experiments to ascertain if his doctrine had a substantial basis in fact. Neither did Brown. Hippocrates based his views of the treatment of disease upon his conception of its essence. So did Brown. Hippocrates classified drugs to suit his fantastic conceptions of disease, instead of upon their manifested properties. And so did Brown. Hippocrates never made any systematic researches into the pure properties of drugs by means of experiments from which the vitiating influence of disease had been excluded. Neither did Brown. Hippocrates did not know, nor did he seek to know, whether there existed any curative relation between the powers of a drug and that which he called the "essence" of disease. Neither did Brown. Nor, indeed, did any one of the fanciful, castle-building visionaries from Pythagoras down to Cullen. They were all alike inventors. And the earth was chock-full of their inventions.

We have already mentioned two fallacies in the logic of this speculative medicine; first, that its theories of the essence of disease were pure assumptions, utterly without substantial support or evidence

of truth; and, second, that the treatment of these hypothetical diseases—these conditions which existed only in the imagination of the physicians—was to be accomplished with agents of which but little was known. But there was a third defect in the chain of argument on which this old doctrine and practice hung, and it is this: That there was not one jot or tittle of evidence known to exist that any drug had power to cure any disease simply by acting on what was called its "essence," or by antagonizing the "conditions" causing or accompanying the disease. The failure to recognize and appreciate this fact constituted the greatest absurdity in the whole proposition. To what extent these three fallacies are influencing medical thought and retarding medical progress to-day is a question of vast significance; but it does not belong to the present discussion.

While there had been some important improvements in the medical art, in the science there had been none whatever for twenty-two hundred years. Medicine consisted of a vast conglomeration of assumptions, conjectures and metaphysical conceits, on which as many fanciful modes of treatment were founded, and to these were added a few observations of cures by drug action. That was all. And that was the medicine to which Hahnemann was introduced.

And what was Hahnemann? A student from his cradle, a critic from the beginning of his scholarship, an original investigator in every department of study in which he engaged, taking nothing for granted, accepting nothing short of actually observed facts as a basis of scientific doctrines, skilled in the art of searching out difficult problems, logical, accurate, thorough, exacting. That was medicine. This was Hahnemann. What was there in such a medicine to attract the respect or hold the confidence of such a man? Before he was thirty years old he had attracted attention by his keen criticism of the more prominent medical delusions of the day, and especially showed the logical and philosophical bent of his mind by insisting upon a medical art based directly upon facts and not upon hypotheses.

It is not difficult to follow the direction, nor even to perceive the guiding intellectual conceptions, of the whole progress of his independent researches. Those who assert and believe that Hahnemann simply devised and invented one more theory of medicine in the same manner as did his predecessors and as did some physicians of a later time, know almost nothing of the real history of his labors and achievements.

About the first independent position assumed by Hahnemann in

relation to the practice of medicine was his opposition to the custom of combining two or several drugs in a single prescription. In this particular he was preceded by Storck, Cullen, Alexander and a few others, and prominently by Hippocrates. Hahnemann cites these authorities in support of his own views and practice. In 1797 he wrote a vigorous pamphlet on the subject, in which he insists that the necessity for "simplicity in prescribing constitutes the first law of the physician." His reasons for demanding the use of the single drug, in preference to mixtures, were: that it furnishes the only method by which the physician can know what the remedy has accomplished, or which drug has been useful in the treatment: that a union of two or more drugs in the human body rarely, perhaps never, yields exactly the natural effects of each of the component drugs; that a drug which is not actually needed in a prescription must always work injury to the patient; that the administration of several drugs where but one is needed, is an indication that the physician does not know which the true remedy really is, and the use of such a mixture renders it impossible for him to learn. But the paramount reason assigned by Hahnemann for the use of simple and single drugs is the utter impossibility of ever bringing medicine to a condition of exactitude or certainty unless this method be followed. He claimed that no human power could ever arrive at exact knowledge of the curative properties of any drug so long as that drug should be given in combination with, or in the active presence of, any other agent having power to cause disturbances in the human economy. This reasoning involved a fact self evident enough to have convinced any physician of logical tendencies; yet the adoption of the method has made but slow progress. Meanwhile, Hahnemann's reasons and arguments remain unshaken and unrefuted. That poly-pharmacy is, or ever can become, the method of scientific therapeutics is not conceivable, much less demonstrable. The "single drug" was the essential first step in the progress of therapeutic discovery, without which Hahnemann himself could have accomplished but little. It was absolutely requisite, not only to all useful experimentation, but to all valuable observation.

How did it happen that Hahnemann began his independent investigations? Let him tell the story in his own words. After speaking of his medical studies and the beginning of his practice, he goes on to say:

"It soon struck me, that in the practice of medicine I was called upon to admit a great deal that was not proved. If I was called to

attend a patient I was (expected) to infer from his symptoms that a certain condition of the internal organs existed, and then select such a remedy as the medical authorities asserted would be useful." Again he says: "It was agony for me to walk always in darkness, to prescribe according to such and such a hypothesis concerning diseases, and to administer substances which owed their place in the materia medica to an arbitrary decision. I could not conscientiously treat unknown mordid conditions by these unknown medicines, which, being very active substances, may easily cause death or produce new affections and chronic maladies. To become thus the murderer or tormentor of my brethren was to me an idea so frightful and overwhelming, that soon after my marriage I renounced the practice of medicine that I might no longer incur the risk of doing injury, and I engaged exclusively in chemistry and literary occupations. But I became a father. Serious diseases threatened my beloved children, my flesh and blood. My scruples redoubled when I saw that I could afford them no certain relief."

But Hahnemann, to use his own words, "felt sure that God must have ordained some certain method of healing the sick." And so, he further tells us, "I determined to investigate the matter for myself from the very beginning."

In the *Organon of the Art of Healing*, first published by Hahnemann in 1810, he gives us in Section 3 the key to the logic of medical science. In that section he says that the physician needs to understand three things. First, he must understand what it is that is curable in disease. Second, he must know what is curative in drugs. Third (and herein the world had no knowledge worth mentioning until Hahnemann taught it), the physician must be governed by distinct reasons in adapting what is curative in drugs to what is curable in disease. Here is the whole of medical science in a nut-shell: What is curable in disease; what is curative in drugs; what are the "reasons"—the laws, rules and principles—that must guide us in adapting the one to the other. Herein is embraced the truth, the whole truth, and nothing but the truth, of the science of medicine as it relates to the cure of diseases by drugs. This is the strong foundation on which it rests and must always rest.

Now let us follow this logical scientist a little farther. We have already seen that when the famous French chemist, Lavoisier, was contending with the advocates of the old "phlogiston theory," trying to demonstrate to them that fire had no place as a natural element, and the dispute had waxed bitter, Hahnemann insisted that

the war of words was but a waste of time, strength and good temper, and that it was not possible that the question between the scientific Frenchman and the chemical antediluvians could ever be settled except at the bar of scientific experimentation. It was the only attitude that a scientist could take. Now we find that he took precisely the same position respecting medical questions; that he insisted upon experiment and observation as the only acceptable basis of therapeutic art, and that he would not even consent to admit a theory or assumption *between* observation and experimentation on the one side, and the application of drugs to the disease on the other. What was known absolutely of drugs was to be applied directly—not intermediately—to what was absolutely known—not guessed—of the disease. In the treatment of disease, conjecture and assumption were to have no place whatever *anywhere*. They were to be shut out of all relation to practical therapeutics, just as effectually as the modern chemist bars them out of his laboratory.

But we must follow this wonderful leader farther yet. He had already asserted the importance and necessity of employing but one drug at a time in all therapeutic operations. He subsequently carried this precaution into all his drug experimentation, and for a similar reason—that the results of an experiment might not be vitiated, and thus become misleading and deceptive through the modifying influence of any other agent. Following out this idea, he made his investigations of drug properties by experiments on healthy persons, lest the presence of disease, like the presence of an adventitious drug, might modify the processes or symptoms of his experimental drug, and so vitiate the whole operation. Here, again, there was to be no theorizing; nothing but pure experimentation. He proposed that the physician's acquaintance with medicine should be knowledge, not fancy; certainty, not conjecture.

Yet one more step remained to be taken—to learn, if possible, whether there exists any constant relation between the curative properties of a drug and the curable phenomena of a disease. The old medical theorizers did not know, and did not appear to care, whether such a relationship existed or not; but Hahnemann well knew that if medicine was ever to rest on a basis of scientific accuracy and certainty, it could only be through the discovery and appreciation of some such relation or relations. Hippocrates had long ago said that medicine could cure diseases on the principle of similars as well as on that of contraries. In the introduction to the *Organon*, Hahnemann cites this statement, and also quotes from

several other authors to show that they had entertained a similar idea, and then he adds, "So near had the great truth sometimes been approached by physicians. But only a transient thought had been bestowed upon it." Hahnemann, in his earlier days, probably regarded this idea of curing by similars as but another of the baseless medical dreams that had floated down through the deep slumber of the Dark Ages. To answer the question of a curative relation between drugs and diseases, he, at any rate, began a series of investigations for himself and in his own way. He knew that his final researches could not be conducted in the dissecting-room of the anatomist, or the laboratory of the physiologist or chemist, nor in the philosopher's grove, nor the hermit's cavern. He knew that the final questions must needs be asked and answered at the bedside of the sick. There is no need to rehearse the story of Hahnemann's translation of Cullen's *Materia Medica* in 1790; of the critical questions he asked of its author; of his foot-note to the article on *Cinchona;* of his self-inflicted experiments with that widely-used drug; of his succeeding experiments with other drugs; of his observations of the effects of these drugs upon the sick; of his comparisons of drug symptoms with disease symptoms; of his researches in the vast field of medical literature for materials for classification, or of the slow and careful and guarded conclusions reached. It required six years, yea, six times six; and how can we tell the story in a few minutes. We can only repeat the conclusion of the whole matter as he gives it in the 25th section of his *Organon*. He says:

"But now actual experience, the only infallible oracle of the medical art" (how intensely Hahnemannian!) "teaches, in every carefully conducted experiment, that *that* drug, proved by its effect upon healthy persons to produce the greatest number of symptoms similar to those found in a case of disease, will rapidly, thoroughly and permanently cancel and turn into health the totality of symptoms of this diseased condition."

He had completed his three-sided investigation. He had discovered and demonstrated a constant curative relation between the manifestations of drug properties and the manifestations of disease. Medicine had at last assumed her rightful position among the natural sciences, her foundations resting upon the bed-rock of experimental, demonstrable truth.

This is Hahnemann's medicine. The other is "Rational" medicine. Look on this picture and on that. How do we like the comparison? Comparison? What is there to compare? They call

this a "New System." It is a new Art, a new Science. It is not an outgrowth, not an off-shoot. It is a New Creation. It is *the* Science of Medicine. Before *this Science* of Medicine there was *no* "Science" of Medicine. Before this there was Chaos. Medicine was "without form, and void, and darkness moved upon the face of the deep." And some of us believe—reverently believe—that "God said, 'Let there be light.' And there was light."

It has been said of Harvey that he did more than discover the circulation of the blood; he taught men *how* to discover it—how to make investigations in physiology. With equal truth it might be said of Hahnemann that he did more than discover and prove the existence of the Law of Similars; he taught the world how to discover it—how to investigate the underlying laws and principles of therapeutic application. Before beginning his experimentation it was necessary for him to lay down, for his guidance, the rules of procedure demanded in the solution of the difficult question which confronted him, how to study disease from the view-point of the scientific therapeutist; how to investigate the properties of drugs experimentally, and how to exclude every factor that might modify the process or vitiate its results; how to ascertain the relations existing between the known properties of drugs and the known phenomena of disease. This preliminary stage of his labors displayed, in the highest degree, the unerring discernment, the endowment of genius, which characterized the man. This portion of his work was necessarily deductive, but it was guided by the clearest conceptions of scientific laws and principles. Had Hahnemann's work stopped at this point, had he simply laid down the rules which must guide and determine such investigations as he proposed to make, and had he then been called from his earthly labors, ere the conception of the Law of Similars had dawned upon him, a thousand different inquirers, working along these lines and under these rules, would have made the discovery independently of each other, and inevitably; and Hahnemann's name would still be worthy of the proudest monument that human taste and skill could design, or that wealth and toil could rear in his honor.

Almost every famous discoverer that history mentions took up his search where some predecessor had laid it down, or else was able only to prepare the way for the feet of a successor. Rarely, indeed, has it fallen to a single individual to begin and complete an important revolution in science or art. Herein the work of Hahnemann was remarkable. He found medicine devoid of scien-

tific features. He left it with its scientific future practically assured. His work related to the whole domain of the healing art. If asked to state, in a single sentence, what he did for his profession, the answer would be: "He first applied to medical research the principles and rules which direct and govern other scientific investigations." Hence his field was as broad as the devastations of disease. Other men have explored here and there a section or a subdivision of medicine, and they have done well; but Hahnemann cultivated a domain as vast as the needs of diseased humanity. He opened up an empire.

We need not dwell upon the hard experiences of this heroic, self-immolating devotee of humanity. We have already mentioned the pecuniary difficulties that environed his early years, but these were a help rather than a hindrance to his determined, indefatigable nature, and only stimulated his self-reliance and self-discipline. Yet it is well not to forget the opposition he encountered, the misrepresentation and defamation that assailed him at every turn, the conspiracies formed against him, the schemes devised to prevent the people from securing the benefits of his researches, the legislative antagonisms to frustrate him, and the cunningly devised civil processes to impede and thwart the beneficent progress of his work. We remember that he was driven from his home, hounded from village to village and persecuted even unto strange cities. We recall his forty years of wandering in homeless exile. We see him toiling throughout the whole of every alternate night to eke out a scanty subsistence for his children; we see him so reduced in purse that he weighed out the bread to each member of his family, denying himself that his sick child might have a double portion; we see him transporting his simple belongings away from the scenes of his persecution, pausing on the way to lay in its grave among strangers the body of his loved child, and turning away with a heavy heart to pursue his wearisome search for a home where he might labor in peace—a home that he never found till he was four-score years old. We see him putting aside the hope of wealth, of preferment and of the distinction that he might have had for the asking; contemning the "bribery of praise" and welcoming poverty and privation, professional enmity and official intolerance, that he might bear to a disease-stricken humanity that commission of healing which he firmly believed he had received as the loving gift of the Almighty, and laying his remains at last beyond the borders of his Fatherland in a tomb unmarked by date or name.

This wonderful man with a wonderful history was in one particular remarkably like other men. He made mistakes, numerous and sometimes serious mistakes. In another particular he was strangely unlike most other men. His mistakes were never forgiven, save at the mercy-seat of that divine forgiveness in which he trusted.

How near this man's life comes to you and to me! It is almost a part of our own lives. Among civilized and enlightened people, wherever sickness is, there Hahnemann's influence is. There is not a "school" of medical practice in which it is not seen and felt and acknowledged. There is not an educated physician in all this land, however he may decry his doctrines, whose belief and practice are altogether free from the dictates of Hahnemann's teachings. He comes into our homes and teaches by our firesides, he ministers beside our beds of sickness, he cheers our sick chambers, he mitigates the pains and perils of disease, he wards away disaster. He restores the father to his business, the mother to her family, the man of affairs to his responsibilities, the child to the circling love of its parent's arms. How shall we recognize the worth of his inestimable ministry? Is posterity doing this man justice? We shall never pay that old debt, repudiated a hundred years ago. But are we meeting our own obligations—the debt of the present? Let us at least transmit to our children the heritage of healing we received through his self-denying labors. Let us extend the knowledge of his medical truth to those who have not heard it; publish his gospel of science in every household; rear and equip his colleges for the education of his physicians; swing wide on their hinges his hospital doors to welcome the sick and wounded poor; train his nurses for their angelic ministrations; pile high the altar-stones of loving memorial; tell it to the generations following; rear upon the everlasting granite his monument of imperishable bronze, to blazon forth that illustrious name "Hahnemann," and herald the divine promise of healing, *Similia Similibus Curentur.*

The Logical Basis of the Law of Similars; Does it Commend Itself to Our Reason?

By R. N. Foster, M.D., Chicago, Ill.

Probably there are many physicians who attach but little importance to the claims of logic in therapeutics. To such, logic seems quite impotent to promote or decide any therapeutic principle. Speculation, *à priori* reasoning, metaphysics, may, they suppose, have some definite relation to logic, or logic to them, but they are all alike excluded from modern medicine. Those who think thus are not without reasonable excuse for their opinion.

Physics and metaphysics are very distinct, and medicine does not belong to metaphysics. Bare logic gives us nothing but logic, howsoever it be worked; and logic is nothing but thought itself, freed from all contradiction, confusion and foreign matter of all kinds Logic is pure thought, in exact working order. It is the true mechanism (to use a familiar simile) of thinking, the inherent method and principle; but it is not the object thought. It is the mill and its mode of grinding. It is not the grist; this depends upon what is put into the mill.

And in this respect medicine, like any other branch of science, has in it two distinct elements, each of which is necessary to the other. One of these elements is the grist for the thinking mill, that is to say, the mass of unground facts presented; the other is the thinking faculty itself, which takes in these facts in their crude state, strips them of all irrelevant and unessential elements, and finally turns out the logical truth that is in them in pure rational form.

This is the ascent of the mind from facts to principles.

But the thinking faculty itself is not one of these facts. It is superior to them. Its essential nature and effort is to present the principles of all facts without flaw, obscurity or contradiction. This is the descent of the mind from principles to facts.

These two distinct movements and elements constitute the actual and entire logic of all medical theory and practice, past, present and

future. Without knowing it even, all real students of medicine employ this logic, and can by no possibility do otherwise if they think at all.

But it is much easier to look than to think, although even looking implies *some* thinking. The gatherer and reporter of facts must not merely see them; he must also see intelligently. And in like manner he who re-thinks the facts seen, must himself see them as they actually are, in order and undistorted.

Facts without logical thought are but the grist without the mill. And the empty grind of logic without facts is the machinery wearing itself out in motion without a grist.

Now the grist of medical facts is enormous. Physiology, pathology, hygiene, materia medica and therapeutics constitute now, as ever, the bulk of our material. And in this realm we may say that there is among all physicians a substantial agreement. That is to say, we all accept the *known* facts of physiology, pathology and materia medica, and we all agree that the materia medica has therapeutic value of some sort, in some degree and to a greater or less extent. It is not about the facts that we differ or dispute. It is about the principles that we deduce from the facts. Here logic comes in play. Here medical science has exhibited all its weakness. Yet right here, too, resides its real strength. Here is its weakness, because from the source of a crude and imperfect logic has arisen the numerous family of medical theories, most of them discarded as rapidly as they were adopted. And here, too, is its strength, for if imperfect logic propounded the theories, a better logic, born of maturer thinking, cast them away. There is but one therapeutic theory that has so far grown stronger and surer from its first announcement a hundred years ago up to the present day, and that is the theory—*Similia Similibus Curentur*. The stern logic of additional facts by the million; the progress of hygiene, physiology and pathology; the accumulated experiences of three generations of medical men and of three generations of patients, chiefly converts from hostile systems, have none of them shaken this principle or retarded its progress in the world.

This system demanded at the outset the most implicit obedience to hygiene and physiology in the collation of its prime facts. It demanded the proving of drugs upon the healthy—not upon those already sick (although this field, too, yields facts of corroborative value)—not upon the bodies of animals, for we cannot reason from effects on animals to effects on man; least of all would it accept as

its basis the distorted truths gleaned in the torture-house of vivisection. If vivisection is a credit to medicine, the credit belongs not at all to Homœopathy. The facts upon which Homœopathy grounds its first and only principle, are facts pure and fresh and sweet from the hand of Nature, and as such perfectly fitted for the deduction of a sane and natural and rational law of cure.

In formulating his law, Hahnemann enunciated no empty dogma, destitute of all basis in the facts of nature. On the contrary, he collated, as no other man had ever done before, and as none has ever since done, the actual observation and experience of all his predecessors, from Hippocrates to Hufeland.

He did more; he purified this experience by purifying every drug that he administered to his healthy subjects and to the sick under his watchful and penetrating eye. And he thus obtained a pure result, such as could not and cannot be obtained by the use of compounded and unpurified material, such as the world had previously used.

Thus it was that pure nature, the unhurt physiology of man, the pure and unmixed products of nature in her own pathogenetic and therapeutic laboratory, and the most perfect hygiene, and the most scrupulous method of study, all combined to sustain and perfect the great logical deduction—*Similia Similibus Curentur.*

And because it was so deeply and truly grounded, it is like a house founded upon a rock. The rains have descended and the winds have blown, and have struck upon that house for a hundred years, and it fell not, for it was founded upon a rock. There is and has been nothing in therapeutics like it, nothing at all equal to it, nor anything in sight that is likely to surpass it. And why? Because its logical structure is right, while at the same time its facts are abundant, well ordered and genuine. Here, for once in the history of medicine, the facts were not absent from the logic, and the logic was not absent from the facts.

This is true even of Hahnemann's deduction respecting high potencies, regarded even by some of his own followers as a conclusion somewhat forced—or as a pardonable error of enthusiasm. But today Hahnemann is justified to the letter by the advance of science.

I know of no more striking example of this than a report contained in No. 1, vol. iii., of the *New York Therapeutic Review* (March, 1895), a journal published by the Pasteur Institute, of that city. This report says:

"Within a very few years most interesting researches have been

conducted upon the effects of water containing infinitesimal amounts of toxic salts upon the growth of some of the lower vegetable organisms.

"Loew and Rokoruy's researches upon the reaction of living protoplasm in the presence of nitrate of silver were the starting point of these studies.

"Roullin succeeded in showing that nitrate of silver in the proportion of one part in 1,600,000 parts of water [about our third centesimal dilution] would inhibit the growth of Aspergillus niger [a species of mould fungus], and still further discovered that this organism would not live in water placed within a silver vessel, although no silver can be detected in the fluid with the most sensitive reagents."

This proves that the arguments of some Homœopathic physicians, who were justifiably skeptical concerning the therapeutic action of our high dilutions, that the medicine could not be effective because its presence could not be detected even by the microscope in the dilutions—this proves incontestably that their arguments were wrong. Their logic was good, and their facts were good, so far as they went. But these experiments, far more searching and crucial, demonstrate facts which they did not possess, and proves their logical deduction false.

But the worst is yet to come. I quote again:

"Nægeli's pupils have gone over these experiments again and ascertained their accuracy. They have been published at length by Schwendener, of Zurich. Nægeli's first studies revealed the fact that in the presence of the most diluted solutions of nitrate of silver, the filaments of Spirogyra could not live." But he found that this plant died in two different ways; in one way by a strong solution of the salt, and in another way by "infinitely dilute solutions." In a word, by the strong solution the plant was chemically destroyed by simple corrosion; while by the "infinite" dilution, death "occurred through the action of some hitherto unknown force, which he termed oligo-dynamia," or little power. But here we must demur to the language of the *Therapeutic Review* in calling this a "hitherto unknown force." On the contrary, it was well known under the name of the "dynamics" of drugs, or drug-power, by Hahnemann, and by him described a thousand times in his writings on medicinal influence. It was just this mild power which Hahnemann discovered in drugs and sought to demonstrate and to utilize in therapeutics.

But finally, what did Nægeli and his co-laborers prove beyond all question that is vitally related to our topic? One more question must suffice. The reviewer continues:

"His results are well described as stupefying. He found that death occurred in three or four minutes in a solution of one part to 1,000,000,000,000,000!!! (our eighth centesimal or sixteenth decimal dilution).

"In such a dilution there could not be more than one or two molecules of the salt in each litre."

Distributing a litre of this solution in two-drachm vials to the members here present, about seventy-two of us would get a vial each. Two of these, perhaps one, would have the two molecules, the remaining seventy would have none of the drug at all. But all the same, what they have would kill the Spirogyra in four minutes. But this is not the worst of it. "Corrosive sublimate gave even more pronounced results; the organism died in a solution of one million million million millionth (each one of you can count it up for himself, it is just twenty-four ciphers)! "This could contain but one trillionth of a molecule in a litre"—or quart. This is equal to our twenty-fourth decimal solution. One molecule in a sea one mile deep and one million miles square.

Now one would suppose that we had reached the limit of demonstrable drug action upon living organisms. But by no means. We all remember what Hahnemann claimed respecting the power of pure metallic gold, triturated and mixed with water or alcohol, and diluted even to the thirtieth dilution. He claimed for such a dilution of that insoluble metal—for what he called an "infinitesimal" dose of it—a destructive and a curative power. For this and all such doctrines he was made the laughing-stock of Europe. But what now is demonstrated by the experiments of Nægeli, experiments varied, repeated, tested, tried beyond the possibility of error?

I quote again: "He then endeavored to find what substances could render water toxic, and which ones could impair or remove this toxic or oligo-dynamic condition. He discovered that many substances hitherto reputed insoluble in water" [here again we protest they were not so "reputed" by Hahnemann], "such as the metals gold, silver, copper, iron, mercury, lead and zinc, *by their mere presence in water possessed this property.*" "He was able, by employing gold coins placed in vessels of water, to vary the amount of toxic force according to the number of coins placed in the water, and to the time during which they remained there." This well-

called "stupefying" reaction of the hidden dynamics of drugs, so absolutely demonstrated, must be accepted as a complete vindication, all the more complete because unintentional, of Hahnemann as a master of materia medica and therapeutics. It proves beyond cavil that his facts were genuine, that they were logically related, that his powers of observation, in spite of the poor means of research at his disposal, were almost mathematically exact, and that even his dynamis and his high potencies are so true as to "stupefy" the most perfect scientific research of to-day.

And, indeed, oligo-dynamia is manifest enough all around us. It is by no means confined to the sphere of medicine. When a little pellet of poison destroys the organism of a powerful man or animal, we see an exhibition of oligo-dynamia in medicine which chemistry never explains, but rather denies.

And when we wonder at the mechanical forces set in motion by electricity in these modern times, we are witnessing an enormous illustration of oligo-dynamia in mechanics—for between the dynamo which furnishes the power, and the machinery which receives it, there is not even material or mechanical contact (in the ordinary sense of these words); there is simply the presence of the one near to the other. Such examples help to show that the conception of a dynamis in drugs is a thought free from contradiction, that is to say, is a logical thought.

But again, there were conditions attaching to early Homœopathy which were just as essential and as fruitful as the study of the principle itself. These conditions were a pure hygiene and a pure physiology; and again, a natural, as opposed to an artificial pathology; and likewise a pure and unmixed materia medica.

It goes without saying, that any departure from these conditions would have vitiated the results.

It was the logical correctness of Hahnemann's thought that led him at once, at the very outset of his great career in medical reform, to enter upon the work of creating a pure materia medica, and to apply and test it under pure hygienic conditions and upon pure physiological states of the body. Here it was not fact and experiment that led the way, but a clear and logical thought; which finally wrought its way by immense industry through chemistry, botany and pharmacy, and at last made even the manufacture of medicine a logical procedure.

It was this logical idea of Hahnemann that gave the first impulse to antisepsis, hygiene, sanitation and dietetics which are now so

striking and beneficent a feature of modern medicine. Hufeland said of him: "He has introduced hygiene into the sick room." But he did more. He introduced mercy into the sick room. He banished instruments of torture from the asylums for the insane. He gave them instead, music and play and recreation and comfort. This was all the splendid outcome of his one clear, logical, consistent conception of medicine. The proof that he was truly logical, that is, that he was right, is found in this: That the medical world has followed in the way that he first trod. He pointed that way. He explored it himself, and he walked in it all his life. It was the way from medical barbarism to medical civilization.

And we can say with certainty that it was not the absence of facts, experience or experiment, for the world has always been full of these, but the absence of Hahnemann's logic which rendered that advance impossible at an earlier period. The crude facts had been accumulating for centuries. A mind was needed that could distil them and extract their vital essence. And it is very important to observe that the logical process in Homœopathy is just as vital in our day as it was in the days of Hahnemann. We, too, must think over our therapeutic problems with care and work them out with fear and trembling. The men who cry out that "all theory is vain, give us facts, give us something practical," are not altogether right. In religion, faith without works is dead. And in medicine, facts without brains are dead. However, it is equally true that brains without facts are useless.

Accordingly, Hahnemann did not strike out wildly into an unknown world of groundless experiment. On the contrary, he garnered up the richest experience of his predecessors and contemporaries, and worked it all over into rational form. He had abundant material, but it was a chaos, and he hoped for a cosmos.

We have now before us the whole field: Hahnemann's conception of the work to be done, his terse summing up of the end in view through all the movement—"the sole duty of the physician is to heal the sick"—the conditions preliminary and necessary, the purifying of his raw material—the materia medica, the thousands of experiments to obtain the facts, the comparison of such facts with those recorded before, the earnest search through all for a clew of uniformity, a something howsoever general, yet definite, that should bind all these scattered experiences into an intelligible unity, for some fixed relation of interaction between the drug world and the world of physiological organisms, which being known, might enable us to formulate a law of cure.

Now it is the demand of logical thought that all those movements, and any others that might be related to them, should each refer to and work with the others—in short, that all should work together as one movement—to one end.

So the ground being cleared for action, not without immense toil and care, Hahnemann took the few steps that follow each other in necessary sequence and reached his goal.

First. Medicines act and living organisms react.

Second. Medicines differ, so that the action and reaction are different with every drug.

Third. Drugs arouse different organs, or even different parts of the same organs, and even distinct functions.

Fourth. In these respects each drug is specific, characteristic, peculiar.

Fifth. What this specific character is, may be learned from experiment, accidental or designed, and in no other way.

Sixth. In disease drugs must be given that will act upon the part, organ or function that is diseased, and not such drugs as have no relation to the diseased parts.

This is the anatomical demonstration of the principle of *similia*. Every step is logical and secure. But two grave defects remain. The fact that Cantharides arouses a cystitis or a urethritis; the fact that it acts specifically at the anatomical seat of those diseases is no indication at all that it will cure those diseases. Rather should we anticipate that it would aggravate them, as in large doses it surely will.

Up to this point, therefore, all the work done has led to no therapeutic result. We have come near to demonstrating that all drugs are injurious to the diseased organs which they specifically affect, but have not approached a single evidence of their curative power. And indeed, what else could we logically have expected? Since all drugs are deadly poisons, how can the specific drug do any other than aggravate the specific disease?

But this is a very serious deadlock. The voice of the medical profession in all ages and the history of mankind is against expectancy. The very animals deny the doctrine, for they, led by an unerring instinct, take medicines when they are sick. What then remains? Search the records of centuries. Interrogate all the ablest, the most learned, the most experienced, from the earliest records to the latest, and let us see what light their testimony sheds on this knotty point, that threatens to bar the way to one step more of progress.

And now emerges a new series of facts for which we are anxiously waiting.

First.—Medical history concurs that drugs cause specific diseased conditions, as before said.

Second.—But this same history records that these same drugs have cured these same diseases thousands of times. Either these statements are true or medical authority is simply worthless. What is to be done? Experiment with pure drugs on specific disease symptoms, and note the results. Abundant experiment establishes beyond question the fact, which is linked firmly with all the previously known and related facts, that drugs do cure the specific symptoms of a disease resembling the symptoms which they produce. Putting the whole map of progress together, each part in its place, there would at first seem to be no conclusion possible, except one, viz., that drugs do not cure at all. But that conclusion is so powerfully contradicted by universal experience, both lay and professional, that it cannot be sustained for a moment.

The fact is clear. Drugs must act according to their specific character upon the specific organ, part and function which they naturally affect, and must act so as to produce precise and specific disorders. Nothing else can we expect from them. To affect those specific elements that are in disorder we must give the drugs that go to them; and we must send to them disease-producing drugs, for we have no others. Now, if we are not logically driven right into the temple of Homœopathy, we are at least in the vestibule, and the door is wide open.

One step more and we are within. That step is Experiment—more experiment—abundant, endless experiment; each one repeating the affirmation, *Similia Similibus Curentur.*

But a point remains yet. Drugs aggravate. They cure, but they set up a disease of their own sometimes worse than the original; just as Corrosive sublimate will cure a natural and specific form of dysentery, but, if pushed, will surely set up a fatal enterocolitis.

How escape this, which is a real dilemma? Do not "push" the drug. Experiment again, and the conclusion is forced that the smaller dose is better than the larger, and how small it is to be is again to be determined by sheer experiment.

Thus that which poisons in the drug is avoided, and that which cures is retained. At length, we have arrived at something like a logical formula—the expression of a vast system of correlated facts and experiences and experiments, and capable of use in the mak-

ing of further progress. The long and trying pregnancy, the painful labor are ended. Homœopathy is born. *Similia Similibus Curentur*, the unmixed remedy, and the least curative dose—at least the not poisonous dose—together with their allied and necessary conditions and concomitants, have since constituted almost all there has been of progressive therapy in the world, and none but God can know what a blessing they have been to sick and suffering mankind.

A very natural and quite logical conclusion had been drawn from an imperfect study of the facts before Hahnemann's time. It was this: If a drug produces disease in a special organ, by all means ought that drug to be avoided when that organ is diseased; if a drug disturbs a certain function in a precise way, as, for example, when Opium causes constipation, then must that drug, above all others, be avoided if we wish to cure an existing constipation. This was tacitly accepted as a common-sense principle of medicine, so obvious as to need no discussion. It was supposed to be as universal and valid a law of therapeutics as could be found. Hahnemann did right to call that mode of prescribing Allœopathy. It was not and is not now a term of reproach, but is the exact word in the right place to express a universal idea. And the word becomes especially significant and apt when the antithetic idea of Homœopathy is to be brought out in full force by contrast.

Now by what logic and by what fact was this idea of Allœopathy overthrown? Chiefly by two considerations: first, by the well-known fact that medicines did cure specific diseases in organs which they did similarly disease; second, by the equally well-known fact that the drug with opposite action did not cure, but aggravate, although at first it seemed to cure. For example (and this remark applies to a very great number of drugs), *Purgatives never cured constipation.* They *seemed* to do so for a few hours, but were inevitably followed by a reaction that terminated in an aggravation of the former condition. The drug had then to be repeated in greater force, again and again, until the organism was exhausted. Millions have been and now are misled by this specious sophistry of the laxative. Every time this mode of cure was tried it was with the same result. Yet Nature shouted aloud the principle that she could not cure in that way. Men saw the fact, but they did not grasp the ostentatious logic.

When science could not solve the puzzle of the starry heavens by the apparent truth that they revolved about the earth, a thoughtful

man finally took the hint, and asked what would the appearance be if the earth revolved about its own axis? All was explained in an hour. Just so did Hahnemann reverse the therapeutic conception of all previous medicine; not without a reason, however. He had experienced the fact in his own person of what is now known as the "dual action of drugs" in the case of one particular remedy, Cinchona. He suspected that this might be true of other drugs. But with correct logic, he instituted experiments to determine the point, consulted medical history, and announced the result. It is now proved by abundant observation that constipating drugs are the only drugs that will cure constipation.

To complete the justification of this greatest of all medical discoveries would surpass the limits allowed in the present trilogy. But it may be permitted, in conclusion, to allude briefly to the final evidence which gives practical endorsement to the truth of the Homœopathic formula—which completes the logical process.

Without the crucial test of clinical experience, the statistics of hospital practice, the records of epidemics, and the vast untabulated testimony of free, intelligent and unprejudiced millions who have tested both principles on the field of battle itself, the domestic sick-room—without this test, the truth of Homœopathy would lack a solid body of support. But this kind of evidence has now been accumulating for a century. The clinical success of our system, in public and in private, has been unbroken. We can look back upon the army that has followed the banner of Hahnemann, and it is hard to find one single face averted, or any once-faithful follower deserting it.

And yet another kind of evidence is to be considered, of which we give but one example. In every hospital in the civilized world to-day a certain drug is used for definite conditions of threatened cardiac failure. That drug is Nitro-glycerine. How did the physicians of the world discover the virtues of this precious and powerful remedy? It was discovered by the late Dr. Constantine Hering, of Philadelphia, by Hahnemann's strict method of "proving," and its precise sphere of action was defined before it had been tested by any clinical experiment. Many years after Hering had announced this remedy, the Academy of Medicine in Paris bestowed special honors upon a French physician for "discovering" the same long-published facts. In so doing, that distinguished body of physicians crowned Hering, Hahnemann and Homœopathy, and covered themselves with dishonor.

Finally, it may be that the "dynamics" of drugs, as described by Hahnemann, has its scientific place not only beside the "oligo-dynamia" of Professor Nægeli, but in the wider domain of "molecular physics and forces." And when we consider the countless evidences of oligo-dynamic activity which we witness in chemistry, physiology, biology, and in many other departments of science, we may claim, with reason, that oligo-dynamics is a form of activity inherent in the molecular constitution of the material world, and is the constant form of its silent and minute activities.

It may be, and it is most probable, that all poisonings and all "cures" are really molecular changes, rather than gross mechanical effects. At all events, when we consider the effects of molecular activity as known to science in many forms, the strangeness of Hahnemann's small doses of medicines entirely disappears.

No matter how much medicine we give, short of the hurtful dose, the "cure" is effected by molecular forces. That is to say, but a very minute quantity of the amount given is used by the organism for the restoration of that deranged equilibrium which we call disease. The rest is rejected as waste material; and so long as it is harmless material, no objection need be made to its employment.

In claiming so much for the work of Samuel Hahnemann, we do not detract at all from the honor due other great masters in other departments of medicine, and even in the same department. Honor to whom honor is due. Hahnemann has an historic setting which becomes him well; for it shows him as one of the galaxy of bright new minds that made his time an epoch. It was the time when Priestley and Lavoisier wrought in chemistry; when literature, philosophy and science sprung into new life. It was part of the Renaissance. It was when political liberty dawned again with unprecedented vigor. It was when Adam Smith revolutionized political economy. It was the opening of a New Age for the world; an age which had its enlightened ones in every department of human activity. And Hahnemann was the leader of medical reformers, the first and greatest of them all. As such the future will honor him.

The Experimental Demonstration of the Law of Similars; Can its Existence and Operation be Proved?

By M. W. Van Denburg, A.M., M.D., Fort Edward, N. Y.

Part I.

To me has been assigned the task of presenting to you "An Experimental Demonstration of the Law of Similars," with the appended problem, "Can its Existence and Operation be Proved?

If, in this discussion, I produce sufficient and reliable evidence of the *operation* of a *law of cure* by *similars*, then there can be no question of its *existence*. Hence, my whole effort will be directed toward a demonstration of the fact that such a law is in constant operation in the care of the sick.

The recognition of *law, in the abstract*, is a matter of slow growth in the development of the human race.

The lowest savages are on a plane only slightly, if at all, above the social brutes in this respect. With them, in most cases, might is right, and might is law, in so far as social laws relating to persons are concerned; the next step higher, a respect for the law of possession, or property, is only found in animals of advanced intelligence, and then only respected when backed by might.

But the recognition of a *General Law in Nature* is an outgrowth of the most advanced civilization the world has yet attained.

The child-like savage mind places a separate intelligence behind each class of phenomena, and peoples the earth, the air and the water with divinities, each of whom has his special task to perform. All things are ordered by the will of the presiding divinity.

In a higher civilization all this power is concentrated in One Being, and He it is who orders the phenomena of the universe, or He may have a co-worker, a Satan, in a subordinate but evil being, who does the evil work of creation. To the savage, a god thunders marvellously with his voice and sends forth his lightnings; it is another god's voice that causes the rivers to flow; a god breathes in the soft south wind, and another in the biting blasts of the north.

In a higher development one God does all this. He maketh the hinds to calve; He bringeth forth Mazeroth in his season; He guideth Arcturus and his sons.

When, however, His wonderful works are studied carefully, and the order of all natural phenomena is accurately observed, it is found that this order is *an invariable sequence.* The theory of personal interference is nowhere substantiated by a single authentic example. The savage's imagination of divine interference, filtered through the experience of the ages, and finally scrutinized by modern methods of research, fades into *absolute nothingness* and gives place to a constant uniformity, which is expressed in the phrase, like causes always produce like effects.

Given all the causes and all the effects of any particular class of phenomena, *and the order of their occurrence,* the modern mind finds it unthinkable that these causes, in the same relationship as before, should not produce results of precisely the same character as in the former instance. So thoroughly has this been enforced in every realm of research, in every avenue of thought, and by every careful observation, that a single well-established exception to this law would startle the scientific world, and demolish our conception of the stability of the universe. It is not only the law of stability, but it is also the law of necessity.

Even if God were to interfere to change the order of events, it would not, and it could not, take that order out of the realm of *Natural Law.* For a new element introduced among previously existing causes, demands a new result; it is impossible that it should be otherwise. If the result be the same, proof must be shown of a new cause; if the result be different, all experience demands an additional cause. And this is *Natural Law.*

With this inexorable fact before us, there is but one conclusion possible in matters therapeutic, and that is that all the phenomena manifested in curing disease, if there be any such thing as curing disease, takes place according to *Natural Law.*

The reproach of the medical science of to-day is, that no such law is recognized by the majority of the medical profession. It is impossible, it is unthinkable, that such a law does not exist. If drugs have in a single instance promoted or produced a cure, that cure has established a fixed order of sequence. Given the same causes, the same effects result, and that single cure established a law of cure by the use of drugs.

But it should not be forgotten that drug cure is only one of several

methods of cure. And it may be well to briefly note the several methods, that one may not be confounded with another.

There is the method of *mechanical cure*, which relieves and corrects mechanical changes of the normal physical system. It replaces dislocated joints, coapts fractured parts, strives to remedy physical defects, such as missing or deformed parts, removes foreign bodies and mechanical obstructions, abnormal growths and deleterious accumulations, *by the employment of mechanical means.*

This is true not only of knives, of splints and bandages and ligatures, but also of cathartics, emetics and other drugs given for mechanical ends.

The method or law of *hygienic cure* embraces not only suitable food, clothing, air, water, light and temperature, suitable dwellings, occupations and recreation, but proper ethical and social influences; also the removal of all deleterious influences of a poisonous, hurtful or debasing nature. In a word, it strives to make the environment harmonious with the physical, social, mental and moral demands of the human being. Chemistry, microscopy, physics, biology, physiology and psychology, investigated by means of the most carefully conducted scientific observations, have opened a broad field of practical knowledge indispensable in curing and preventing diseases.

The discovery of many specific disease-germs, the discovery of many hitherto unsuspected avenues of infection by these germs, and the continued observations now being conducted in these directions, are all within the sphere of hygienic cure. Modern medicine points with a just pride to these victories, these practical results of scientific researches. The physician who ignores these results, or who fails to apply the precautions they demand, imperils his patient's life to an inexcusable degree. Hygienic cure is practically an indispensable coadjutant to drug-cure and surgical cure.

Still another method of cure should be noticed in passing. The method by *suggestion,* the hypnotic cure. With this may also be classed an allied method, the so-called *faith cure.* I have treated these methods at greater length elsewhere, and desire only to say here, that their therapeutic results are beyond question successful in *certain cases* and under exceptional circumstances. But the conditions of cure by these methods are too limited, and the sphere too narrow, to be of practical use to the exclusion of the other means. Psychic cures are successfully applicable to only a very limited number of patients, of peculiar, if not abnormal, mental develop-

ment. The extreme sensitiveness, excitability, docility and impressionability required in the patient is found only in a very limited number of cases. Ignorance, credulity, and I had almost said gullibility, are necessary elements in this method of cure. With the general spread of education, and the diffusion of scientific spirit of research, this method must become more and more restricted and finally obsolete. Do not, however, imagine that in the present it is to be dismissed with a mere mention.

Every physician has a few cases to whom the psychic method is more or less applicable. It is an excellent adjuvant to other therapeutic means, and in some cases of nervous diseases an indispensable adjuvant. The practice of this method should not be relegated to cranks and charlatans, but be made a part of the resources of every practitioner of medicine. He who neglects the mental and psychical side, ignores an important factor in the cure of many perplexing cases.

The beneficial effects of *heat* and *cold*, either moist or dry, must be acknowledged in suitable cases, also the beneficial effects of *electricity* and *magnetism* in restricted limits. The same is true of *enforced rest*, *enforced motion* and *massage*.

All questions of climate, of sanation, of antisepsis and disinfectants are hygienic measures, as has been said. Mineral waters are drugs. Lavage of the stomach, the colon, the vagina, the urethra and bladder, the nasal passages, etc., have at times beneficial results, and are partly hygienic, partly mechanical, and partly drug-effects when drugs are combined for this purpose. Even bleeding may, under certain circumstances, be demanded, as in an apoplectic seizure in a full-blooded person, when better means are not at hand.

I am inclined to think that *counter-irritation* has played a much wider rôle in the cures wrought by Allopathy than has hitherto been acknowledged by us. Not only by the use of external irritants, as blisters and revulsives, but also internal irritants as well. Medicines which have been given until their toxic effects have become considerable may not in every instance have been wholly devoid of beneficial effects; and when such effects have followed the use of large doses, it may well be questioned whether the action did not fall under the head of counter-irritants.

Bungling as this method is beyond all doubt, ineffectual and even dangerous, as it is in many cases, still if it has been productive of cure in even a single instance, it is incumbent upon us as investiga-

tors to acknowledge its efficiency as well as its inefficiency. In studying the curative effect of drugs in disease, no application that is beneficial should be denied a just and fair consideration.

If we investigate the *history of drug cure*, we shall find that from time immemorial drugs have been used by the human race to cure disease.

It is even claimed that some of the lower animals in sickness resort to the use of drugs in the shape of growing plants and trees, or of minerals found on the surface of the earth, and this statement appears to have been well authenticated in some instances. Be that as it may, no known savage race is so low in the scale of intelligence, that it has not the traditional use of some drugs. They are derived from the vegetable, animal, and mineral kingdoms, and are used to cure the sick, to remove obnoxious persons, to produce abortions, as aphrodisiacs, and to produce intoxication. Drugs are also used by savages to stimulate the powers of endurance, allay hunger and dull pains, to capture game and to destroy vicious wild animals. When, therefore, we consider how remote has been the use of drugs, medicine may justly claim to be the oldest science known to the human race, except hygiene. The latter deals with food, shelter and clothing, as well as a suitable locality for inhabiting, and is of the first necessity, even to the savage.

One important thing remains to be noted. Back of every method of cure, underlying all therapeutic discoveries of every description, must be granted *the natural tendency* of all organized life to return to the normal state of health, when for any reason there has been a departure therefrom. This is the *vis medicatrix naturæ*, without which all cures would be impossible. When this inclination of nature for any reason is destroyed, all hope of cure goes with it.

This tendency to health may be present in any given case in varying degrees. It may be so strong that health will be restored in spite of deleterious treatment; or of so weak a tendency that only the most skilful and delicate treatment will avail to save the organism from destruction. Often the only thing necessary for restoration is hygienic treatment, the removal of deleterious influences, the supply of proper food, clothing, shelter, exercise and recreation.

Again, there are cases where *positive drug interference* is demanded, if the cure is to be wrought speedily, safely and surely.

First, then, we start with the assumption that drugs may, under proper conditions, cure disease. This much is taken for granted.*

* The proof of this proposition devolves on the clinical discussion of drug-cure.

"A drug is any substance, vegetable, animal or mineral, used in compounding medicine." This is the *Century's* definition. We may go further, and say, a drug is any substance which, from its inherent qualities, is capable of altering the natural state of health, and from its natural qualities also capable of curative use in disease.

Too much mince-pie, or pork and beans, may cause sickness, but it is the quantity, not the quality, that does this. If the meat be tainted, and causes sickness, it is the quality that does it; and if that quality can be isolated, it becomes a drug; if it can be rendered a stable compound, it may be used to cure disease. Hence, we infer that a drug alters the state of health from the *peculiar qualities* it possesses.

Drugs are, for the most part, poisons, at least they are substances that, under certain conditions, are deleterious to health. Under proper conditions they are also beneficial in restoring health.

An *experimental demonstration* of the law, or laws, by which drug-cures are accomplished requires that:

(*a*) The *results of the use of drugs* be examined;

(*b*) *Their methods of action investigated;* and

(*c*) *Reasonable proof of the method or methods* by which they act be produced.

The beneficial effects of drugs being granted in some cases, *the methods of their beneficial action* may be investigated from two distinctly different standpoints.

First.—We may seek to learn *their physiological effects in disease.*

While this would seem the most natural method of study, it is, at the same time, the most impracticable. H. C. Wood characterizes this method as "beyond human prescience."

The reasons for this conclusion are found in the multiform variations of the phenomena of disease.

No standard of uniform action can be established by this method.

The same disease has so many different forms of manifestation in different persons, and in the same person at different times, that Wood's conclusion is perfectly justified by experience.

Second.—We may strive to learn what action, if any, the medicine has upon the organism in health, and then seek for some constant relation between the curative effects of the drug and its effects upon the healthy.

In this search we shall be greatly aided if we select such drugs as are known to have an established repute for curative effects, and at the same time have a more or less clearly defined recorded history of "physiological effects" upon the healthy human organism.

The comparison of these two sets of phenomena should discover whether there is any constant relation between the one and the other. The proof may not be positive in every case, but if there be a general trend of facts, a general uniformity of inter-relations in the phenomena on the one hand and on the other, the presumption is very strong that more careful and painstaking observations would tend to fix the limits of this relation clearly.

If it could be shown that no such investigation has ever been carefully instituted, the part of wisdom would be, to begin it at once.

If, however, it can be shown that such comparisons have been made, then it would be equally wise to examine carefully and without prejudice into the conclusions that have been reached. In such an examination it would be well to keep in mind the fact that often the most practical results are beyond the power of scientific explanation as to their ultimate nature.

Herbert Spencer well says of the ultimate limits of human knowledge, that "its advancement has been towards the establishment of both a positively known and a positively unknown." (*First Principles*, p. 127, 1864.)

Now, nothing is so positively unknown as the nature of the vital force. Still its manifestations form the basis of all physiology.

Hence, we might naturally expect to find our road completely blocked sooner or later if we pushed our research for a law of cure in the direction of the nature of the "ultimate effects of drug-action."

Spencer closely points out in the above connection, the road to be pursued in seeking for a general law of nature. He says, "Though we can never learn the (ultimate) nature of that which is manifested to us, we are daily learning more and more completely *the order of its manifestation*," and this *constant order* we call *natural law*. (*Ibid.*)

It is now a full hundred years since a German physician, well versed in the medicine of his day, proposed a standard. Samuel Hahnemann declared, in 1796, that when a drug had been thoroughly tested in all its physiological effects upon the healthy human organism, and these effects had been carefully recorded, this record was the best standard by which to compare the curative effects of the drug upon the sick. He further declared that such a comparison will show that a dose of the drug, *too small to produce poisonous effects, will prove curative in all diseases that closely resemble the physiological sickness caused by large doses of the drug* or doses large

enough to make a healthy person sick. And, conversly, that *too large doses*, that is, doses *so large as to have toxic or physiological effects*, will invariably prove injurious, under like circumstances, in all such cases.

From this method of comparison, and the two deductions founded on its experimental application in numerous instances, have arisen all usages, customs and precepts regarding *small doses*, size of dose, repetition of dose and all the numerous details, observations and theories that have tended to obscure, retard and prejudice the cause of Homœopathy in the eyes of the uninitiated.

That the method has been clearly recognized as a good one by Alfred Stillé and H. C. Wood, two of the most philosophical writers on materia medica and therapeutics that the so-called Allopathic School have produced, is beyond dispute. Sidney Ringer has sedulously avoided all discussion of a standard of comparison Roberts Bartholow is too satisfied with the superiority of his own wisdom to seek for any further enlightenment, while Hobart Amory Hare is too narrow, too prejudiced, too *ex parte*, not to say too wilful in his representation, or rather misrepresentation of facts, to be able to draw any conclusion worthy the attention of a serious-minded thinker. One of the most palpable effects of the influence of the principles announced by Hahnemann, and his two deductions above mentioned, is seen in the abolition of the custom of giving large doses. This was not only prevalent in Hahnemann's time, but it was then the sole method of treatment by drugs.

Hence, when Bartholow says: "The eras of excessive dosage and of nihilism are alike relics of the past" (Bartholow, p. 17), he makes an admission fraught with a world of meaning.

The position of Allopathic medicine to-day is an anomaly. It has given up excessive or even physiological doses, and has for the most part adopted a system that would have excited scorn twenty-five years ago.

What is the reason for this? First, because it has found that large doses did not do as much good, on the whole, as they did harm; and second, because it was found that small doses did no harm, and often a great deal of good. Has Allopathy changed its principles in doing this? Most assuredly. In all cases where it is now using *small doses*, it is using them in accordance with the law of similars. A small dose of a drug, by which I mean a dose *too small* to produce what Allopathy calls "physiological effects" upon the healthy, will produce no effects upon the sick, unless given in

diseases closely similar to those caused by larger doses of the same drug in health. Hence, in all those cases where Allopathy recommends small dosing as beneficial, it is applying the drug according to its Homœopathic use, and nothing else. I challenge a single example from Allopathic literature to prove the contrary.

It is not sufficient to say that the drug has not been known to produce this or that sickness, unless it can be shown that all *of the effects of the physiological doses upon the healthy have been exhausted.* Until then we must object that the physiological effects of the drug *are not known*, and it is not competent to adduce such a drug as evidence in rebuttal of the principles laid down.

On the other hand, in every case where a well-authenticated and full physiological investigation of the effects of a drug upon the healthy has been made, we shall find every disease for which small doses are recommended, will be matched by a similar disease produced by the physiological effects of the drug.

In proof of this I herewith present a list of drugs, part of which are quoted in by no means an exhaustive manner, to show how the recommendations of Hahnemann are now being carried out by the recommendations of Allopathic authors.

Had space allowed an exhaustive exhibit, it would have tended only the more strongly to prove the truth of what I here assert.

Beginning from the list in alphabetical order, I beg a careful consideration of the trend of proof. And I invite the most laborious study of any one of the drugs introduced to disprove the position I have taken, viz., that in all cases where Allopathy recommends small doses as curative, "the physiological effects" of the drug, if these are well developed, will show that large doses will cause sickness in the healthy very similar to the natural sickness which the drug is recommended to cure.

PART II.

There has been in the Allopathic School a steady decadence of the study of the physiological action of drugs from the time of Stillé's last edition (1874) to the present day. Instead of marking an epoch of evolutionary progression, as would naturally have been expected, Stillé's work marked the turning-point toward retrogression. It is not only the most accurate and comprehensive description of the physiological action of drugs acknowledged by Allopathy, but practically the only one of the kind in the School. All others are excerpts, and at best very bungling and unsatisfactory, if not at times wholly misleading.

Take, for example, Hare's description of the "Physiological Action" of Hydrastis canadensis: "In poisonous doses Hydrastis may cause convulsions followed by paralysis, according to the quantity of Herberine or Hydrastine present. The latter is more convulsive in its effects than the former. Upon the circulation, Hydrastine, *when injected into the jugular vein*, causes a primary fall of arterial pressure, succeeded by a decided rise, and the studies of Cerna have proven that it is an active poison, producing spinal convulsions followed by paralysis." (P. 204, *op. cit.*)

This is all he has to say of "Physiological Action." Under "Therapeutics" Hare says: "Hydrastis is of service in *chronic gastro-intestinal catarrh*, particularly that followed by the abuse of alcohol. Whenever (mucous) *membranes exist in a lowered tone* this drug is indicated. Thus in *catarrhal jaundice* of a sub-acute type, in *uterine catarrh*, in *leucorrhœa* dependent upon a relaxed state of the vagina, in *chronic nasal inflammations* and irritations it will be found useful." (*Ibid.*)

Our author notes that in "poisonous doses" under the most extreme circumstances—viz., "when injected into the jugular vein —Hydrastis produces spinal convulsions and paralysis." And from his account we might be led to infer that this was *all the physiological action* of the drug that had been well determined.

Stillé says, "Its bitter taste doubtless led to its employment as a tonic in states of general debility and impaired digestion, and of its efficacy under such conditions no reasonable doubt can be entertained." (Vol. I., p. 554.)

Then follows one of the sweeping statements for which Stillé is not alone famous. Without any evidence of having personally investigated the subject, he turns, in the (supposed) might of his position and reputation, to demolish pretentions for the further useful employment of Hydrastis, that were probably being tentatively put forth at the time he wrote.

He says, "The further statement that it is also aperient and cholagogue, diuretic and alterative, with special operation not only on the mucous membranes of the intestine, but also on the genital organs of the male and female, and upon the urinary apparatus, *coula only have originated with persons ignorant alike of the laws which govern the actions of medicines and of the nature of disease.*" (*Ibid.*)

Notwithstanding this wholesale condemnation, *ex cathedra*, Allopathic books to-day recommend on all hands the employment of Hydrastis for all of these purposes.

Stillé further says of this poisonous, convulsive medicine: "Of the fluid extract a teaspoonful may be administered *frequently*."

Hahnemann asserts that "No medicine can be properly used to cure the sick *until the entire range of its physiological action* has been determined."

It is hardly reasonable to suppose that the best way to find out this action would be to inject it into the jugular vein of rabbits or dogs in toxic quantity. Would it not be much more reasonable to administer it by the stomach to the human subject, especially if "it can be safely given in teaspoonful doses frequently?"

Of inexact, partial, unsatisfactory and unscientific investigation no more striking example can be found to-day than "the researches into the physiological actions of drugs" by the self-styled Scientific School.

Nevertheless, we may construct an outline, and in some cases a tolerably correct working Homœopathic materia medica, from the "physiological action" of a drug when compared with the "therapeutic uses." In proof of this the following drugs are submitted:

Aconitum Napellus. L.

Physiological Action.—The *first action* of Aconite, in physiological doses, produces warmth in the stomach, nausea and oppressed breathing, diffused warmth, tingling, numbness, slower pulse, debility. *A more severe dose* produces collapse, with lancinating pains in the joints, headache, vertigo, dimness of vision, cold, moist surface, quick, feeble pulse, small, weak and irregular as the collapse deepens; the voice is weak or lost; blindness, deafness, slight delirium and death by syncope.

In many cases vomiting, diarrhœa, twitchings and tremors follow severe doses.

Long-continued use of Aconite produces severe pains in the head, severe pains in the eyes, with lachrymation, photophobia, heat of the skin, quick pulse and *great restlessness.* (Stillé, vol. ii., pp. 308–310.)

Curative Action.—"Aconite is a powerful antiphlogistic."

"It is of great value in all cases where there is inordinate activity of the circulation." (*Ibid.*)

"It is indicated in morbid states characterized by an excess of motor activity; in inflammatory states of the respiratory organs; in certain forms of neuralgias; in inflammatory states accompanied by arterial tension and fever; in the active form of acute cerebral congestion." (Bartholow, pp. 656–658.)

Physiological Action.—All authors agree that the action of Aconite is very brief; either death or recovery follows a large dose in a few hours.

Stillé is the only one who gives the effects of the *long continued use* of Aconite. *Only by this means* are developed those physiological states that indicate the most appropriate use of the drug in therapeutics.

"The dose of Aconite tincture is 1 to 5 drops, repeated one to three hours, *pro re nata.*" (Wood, p. 428.)

Homœopathy gives usually from one drop to five drops, at a dose, of the 3x, or higher, with ten minutes to two hours between doses, in water, one drachm.

Ammonii Carbonas.

Physiological Action.—"*Moderate doses* cause slight headache, irritative cough and increased secretion of bronchial mucus." (Stillé, ii., p. 785.)

"*The action of this drug for a length of time* produces pain in the abdomen, occasional diarrhœa, complete loss of appetite, quick, feeble pulse, pale face and loss of flesh and strength.". (*Ibid.*)

A case of morbid use of this drug resulted in "great loss of flesh, hectic fever, vast hæmorrhages from intestines, nose and gums, loss of all the teeth; he could eat nothing; his body broke out all over in pustules, and he died of the highest degree of marasmus." (*Ibid.*)

Curative Action.—The drug is recommended in typhoid pneumonia "when the strength fails and expectoration grows difficult. Give two teaspoonfuls (of two drachms of the salt in five ounces of water) every two to four hours." (*Ibid.*)

"It is much lauded in *malignant scarlatina, with exceeding prostration*, mucous membranes subject to hæmorrhages." (*Ibid.*)

Chronic pulmonary catarrh, broncho-pneumonia, extreme debility of the stomach of drunkards, sick headache and cardialgia are among the affections for which Stillé recommends this drug.

Hare says this drug "*undoubtedly has an action exactly like the liquid preparations of ammonia.*" (P. 62.)

Bartholow says "*individual differences* (*in the various preparations and compounds of ammonia*) *undoubtedly exist.*" (P. 225.)

Wood gives no physiological account of the drug, but says of the carbonate: "It is the best preparation for continuous use, and in typhoid pneumonia." (P. 338.)

The most conspicuous thing *in the last three authors* is the omission of any definite statement of the physiological effects.

ASAFŒTIDA.

The following is a summary of the action of Asafœtida both in its physiological sphere and in its curative action. It is drawn wholly from Stillé, vol. ii., p. 27, etc.

In the digestive sphere, Asafœtida *causes:*

"Burning in the fauces;"

"Impaired digestion;"

"Enfeebled digestion;"

"Alliaceous eructations;"

"Oppression and fulness of the stomach;"

"Nausea and vomiting;"

"Distension of the abdomen and discharge of fetid flatus;"

"Colic and burning in the abdomen;"

"Increased peristalsis of the bowels;"

"Strong inclination to stool;"

"Diarrhœa;"

"Thin and repeated evacuations;"

"It also causes increased secretion of the liver."

Asafœtida *cures:*

"Impaired digestion;"

"It augments the appetite;"

"It improves the digestion;"

"It improves the morbid secretions of the mucous membranes and expels intestinal worms;"

"It cures distension of the abdomen by promoting the discharge of flatus;"

"It cures hypochondriasis by the direct action of the drug on the digestive function, which is the starting-point of the disease."

We note here that no disease is here said to be cured by the drug that has not its direct counterpart in the diseased state caused by the "action of the drug on man." Even the expulsion of worms falls under this head, since it is conceded that intestinal worms are the result of an impaired state of digestion, and not the associates of the healthy human being.

Upon the respiratory system, the action of Asafœtida *causes:*

"The pulse and the respiration to become slower;"

"The pulmonary exhalations to become increased."

(Note here in the last the careless and indefinite method used in describing the action of the drug.)

Asafœtida *cures:*

"Chronic catarrh, with or without spasmodic dyspnœa;"

"When the wheezing is considerable and the expectoration difficult from the general debility, or the cough spasmodic, much benefit may be derived from the use of the drug."

In the sphere of the nervous system, Asafœtida *causes:*

"General malaise;"

"More or less flying pains in the head;"

"Various nervous and hysterical phenomena;"

(Again we regret the imperfect report of the action of the drug as expressed in the description of the hysterical phenomena.)

"Occasionally, Asafœtida increases the sexual desire;"

"It tends to hasten the menses."

Cures Made by Asafœtida.—"General debility is cured by the property of this drug of imparting vigor without exciting;"

"This drug is one of the most valuable agents that can be employed in the treatment of hysterical cases;"

"In true epilepsy it is perfectly useless; but in hystero-epilepsy it is reported to have cured one case."

"In nervous apoplexy, or that form which seems to consist in simple congestion of the brain, it deserves a prominent place;"

"The spasmodic affections of girls, at the age of puberty, are frequently cured by the establishment of the menses; the emmenagogue properties of Asafœtida may therefore become the *indirect means* of removing these nervous disorders."

Again note—no *cure* is here mentioned as effected by this drug (except the indirect cure), that is not like a diseased state caused by the drug in its action on man.

But a still stronger case, in the same direction, is made out by our author. Look on these two pictures:

Asafœtida causes:

"Impaired digestion; general malaise; enfeebled digestion; colic and burning in the abdomen; distension of the abdomen (Jorg says enormous distension of the abdomen, and Jorg is the authority quoted by our author); and various hysterical phenomena."

Says Stillé:

"In that torpid condition of the bowels which is commonly associated with general debility, when the digestion is imperfectly accomplished, and severe attacks of colic supervene; when tympanitis, sometimes of an immoderate degree, oppresses the breathing and becomes the exciting cause of an hysterical attack, when, at the same time, there are signs of chlorosis, or that disease is fully de-

veloped, a combination of symptoms is presented which causes extreme suffering to the patient and great annoyance to the physician. No single medicine is more useful than Asafœtida in removing this."

Acidum Sulfuricum.

Physiological Action.—"The habitual use of Sulfuric acid, sooner or later, enfeebles the digestion, produces colicky pains and diarrhœa, impairs nutrition, and is very injurious to the teeth, even when greatly diluted." (Stillé, i., p. 301.)

Curative Action.—"It has been used profitably in scurvy and in purpura" (*Ibid.*, p. 304); "also in dyspepsia accompanied by alkaline pyrosis; but it is no less serviceable when the secretions are acid; in diarrhœa and cholera morbus of an epidemic type, dependent on atmospheric changes." (*Ibid.*, p. 305.)

"It is useful in acute or in chronic lead-poisoning." (Stillé, *Ibid.*, p. 306; but Wood doubts this, p. 493; Bartholow, p. 109.)

Arsenicum Album.

This drug, according to Stillé, causes, in its toxic effects, the following diseases (Stillé, ii., p. 811, etc.), and cures the same diseases:

Arsenic causes a chlorosis; and cures a chlorosis.

Arsenic causes an impairment of all the functions of the nervous system.

Arsenic increases the activity of all the functions of the nervous system.

Arsenic causes loss of memory and great dulness of all the mental powers.

Arsenic renders more active all the mental powers.

Arsenic causes great irritability, uneasiness, apprehensiveness, prostration, and exhaustion, in connection with other manifestations.

Arsenic cures in diseases where these symptoms are especially prominent and manifest.

Arsenic causes neuralgia of a certain type; it cures neuralgia of that certain type; especially intermittent.

Arsenic causes spasmodic movements; cures chorea.

Arsenic causes fevers of a certain sort.

Arsenic cures fevers of the same sort.

Arsenic causes ophthalmia. Arsenic cures ophthalmia, especially if associated with impetiginous eruptions. But arsenic causes impetiginous eruptions.

Arsenic causes dyspnœa, and cures dyspnœa.

Causes asthma, cures asthma.

Causes severe præcordial pain, constriction, spasms, anxiety, etc.

Cures severe angina pectoris.

Causes chronic bronchitis, with hectic, etc.

Cures chronic bronchitis, hectic and associated symptoms.

Causes dyspepsia, cures dyspepsia.

Causes gastrodynia; cures gastrodynia.

Causes inflammation of the stomach; cures inflammation of the stomach.

Causes loss of appetite; cures loss of appetite.

Causes burning in the stomach; cures gastralgia.

Causes increased urine, with certain attendants; cures increased urine with the same attendants.

Causes menorrhagia with certain attendants; cures menorrhagia with like attendants.

Causes a fibrinous, false-membranous deposit on the mucous surface of the intestines; cures copious discharges of membranous shreds from the bowels, attended by other symptoms like those produced by arsenic.

Causes rheumatism; cures the same peculiar sort of rheumatism.

Causes ulcers of the nose; cures ulcers of the nose.

Causes ulcers of the mouth, cures ulcers of the mouth.

Causes ulcers on the legs; cures ulcers on the legs.

Causes gangrenous ulcers; cures cancer on the same parts.

Causes scaly eruptions of the skin; cures scaly eruptions of the skin.

Causes eczema; cures eczema.

Causes psoriasis; cures psoriasis.

Causes pustular eruptions; cures pustular eruptions.

Does not cure syphilis; but cures syphilitic skin diseases that have a scaly manifestation.

Belladonna.

Physiological Action.—"Dryness of the mucous membranes, especially of the throat, dilated pupils, headache, delirium, quickened, or very rapid pulse, occasionally very slow pulse, scarlet rash, spasmodic movements, severe spasms, sopor and post-mortem proofs of engorgement of lungs." (Stillé, i., p. 906, etc.)

Curative Action.—It is recommended in headache, scarlet fever, delirium and spasms of various sets of muscles, and spasmodic

affections. "The rash is said to closely resemble scarlatina" (*Ibid.*, p. 903); "and the drug to be prophylactic in epidemics of that disease." (*Ibid.*, p. 922.) "It is useful in pneumonia." (*Ibid.*) This drug admits of an extended comparison, symptom by symptom, as in the case of Arsenic, and the results are not less striking.

Convallaria Majalis. L.

"*First Action.*—Slows the heart-beat; the rise in arterial pressure is both affirmed and denied." (Wood, pp. 383–884.)

"*Toxic doses* of the drug produce rapid and irregular heart action, the arterial pressure being at first increased; afterwards it falls and death takes place from syncope." (Wood, p. 383.)

"Profuse diuresis and purging may also be produced." (*Ibid.*, p. 384.)

It is recommended in all forms of cardiac weakness, dilatation, fatty degeneration, valvular lesions, with failing heart power. (*Ibid.*, p. 384.)

Digitalis Purpurea. L.

"*Decided doses* produce great reduction and sometimes dicrotism of the pulse, and increase of the size and force of the wave; at the same time the arterial tension is increased." (*Ibid.*, p. 362.)

"*Toxic doses* induce, after a time, increase of pulse-rate, smallness and weakness of the wave, and lowered tension." (*Ibid.*)

"Useful in all forms of heart-failure with small, weak, irregular, feeble pulse." (*Ibid.*)

The use of Convallaria and Digitalis by the Allopathic School has seldom been Homœopathic, because they have used it in too large doses, thereby obtaining its *toxic* effects. Of course, in organic heart disease the mechanical effects—the toxic effects—are justified by the end accomplished. But they are in no sense curative; they only palliate, deferring the catastrophe for a longer or shorter period.

Homœopathy has found *small doses* very useful in *very slow, intermitting* pulse.

This presentation of the subject has been far from satisfactory for several reasons. The quoting of a single drug occupies much space. If only a few drugs are quoted it will be asserted "these are mere coincidences and chance relationships." Nevertheless, time and space will allow only a very limited number. Of those only mentioned by name in the following list, many examples exist

that are far more striking than any given above. Especially is this true of Mercury and Iodide of potassium, of Gentian, Cascara, Ipecac and Hyoscyamus, besides others.

No impartial mind can consider these "repeated coincidences" in the light of chance occurrences. Much less are they the results of skilful manipulation. They prove that experience is daily and hourly demonstrating, in the hands of every Allopathic physician in the land, how small doses cure only in those cases where large doses cause a similar sickness. And, as Bartholow declares, "the era of large dosing is a relic of the past," the practice of medicine in the future is bound to become more and more according to the Homœopathic standard.

A list of drugs from Allopathic authors in which the physiological action, as given by them, shows that the small curative doses, also recommended by them, are in accordance with the law of *similars.*

Angustura, Benzoinum, Cannabinus indica, Cantharis, Cascara, Cinchona, Cocculus indica, Copaiba, Colchicum, Conium, Creosote, Cuprum ammoniatum, Cuprum sulphuratum, Dulcamara, Gentian, Hydrargyrum, Hydrocyanic acid, Hyoscyamus, Iodine, Ipecacuanha, Lobelia inflata, Magnesium sulphuratum, Mezereum, Myrrh, Nux vomica, Opium, Oleum ricinis, Oleum terebinthinum, Phosphorus, Physostigma, Plumbum, Potassii bromidum, Potas. bitartras, Potas. iodidum, Potas. nitras, Quassia, Rheum, Ruta, Sabina, Stramonium, Veratrum viride.

This list has not been hastily or carelessly made. Every drug presented here has been reviewed both as to its *physiological* and *curative* action.

And I distinctly challenge *any one to disprove the law of similia* from a study of *one*, or *any number*, of these drugs in *Allopathic materia medica.*

By Allopathic materia medica I mean a consensus of all the authors named: Stillé, Wood, Ringer, Bartholow and Hare.

The list might be extended to include every drug in Allopathic materia medica, but for two facts:

First. These authors have not a *record of the physiological action* of every drug they name sufficiently extensive to reveal its whole sphere of action clearly.

Second. Allopathy has not learned empirically concerning the *diseases the drug will cure in small doses.*

Nevertheless, I make this broad statement: That at the present day Allopathic medicine is not beneficially recommending or giving

a single drug *in doses too small to produce its "physiological action,"* that is, its *toxic effects—according to any other law than the law of cure by similars.*

They are as much bound by this law in their successes with small doses as their bodies are bound by the law of gravitation, and they might as well try to escape the one as the other.

What does Allopathy lose by its method of procedure?

It loses this much, that while Homœopathy *has a clear chart of the country to be traversed, in every drug whose physiological action is clearly established,* and takes this chart *out of its pocket* and carefully studies every step of the route, Allopathy puts the same chart in its inside pocket, buttons up its coat tightly, *resolutely ignores the chart,* except what it vaguely remembers of *its general directions,* and *insistently sets out on a tour of empirical re-exploration.*

But Allopathy has not been wanting in authors who have caught sight of the promised land, though without courage to enter it.

In proof of this, the following quotations from Wood, Stillé and others are submitted, drawn respectively from the following editions:

Alfred Stillè's *Therapeutics and Materia Medica,* fourth (last) edition, 1874.

Roberts Bartholow's *Materia Medica and Therapeutics,* seventh edition, 1890.

H. C. Wood's *Therapeutics,* eighth edition, 1891.

Sidney Ringer's *Handbook of Therapeutics,* twelfth edition, 1888.

Hobart Amory Hare's *Text-Book of Practical Therapeutics,* fifth edition, 1895.

Bartholow says: "Increasing observation satisfies me that an author, writing on such a complicated subject as the actions and uses of remedies, owes it to his readers *to present them the result of his matured experience and his composed judgment,* rather than lay before them a multitude of opinions, experiments and reports, out of which they must construct, if they can, a consistent theory, or form an adequate conception of the nature and relation of all the facts."

This same author "has a strong conviction that, *in the future of therapeutics, the law or principle of physiological antagonism must play an important rôle.*" "He has indicated," he says, "more fully, probably, than any other systematic writer, the application of this principle in practical therapy." (Preface to second edition.)

Yet this arbiter of what is proper for you and me to know, and what is best for us not to know, is one of the most popular authors of the present day. His pompous presumption is conspicuous in all he

writes. Take this for example; In the preface of his work he says: "New remedies, studied by the physiological method, are presented to us in the fullest details of their actions, and old ones are examined anew in the brilliant light of modern scientific methods. Subjected to the strictest physiological tests, remedies are pursued into the closest recesses of nature, their powers fully ascertained, and their uses suggested from the standpoint of their physiological actions." (Preface to fourth edition.)

Of course, "when remedies have been subjected to the strictest physiological tests, pursued into the closest recesses of nature, and presented in the fullest details," nothing remains to be discovered, nothing to be observed.

"It is only necessary to observe further," as Bartholow says, that a "condensed and connected description of *that view of the subject which seems to the author most consonant with all the facts* should be presented." (Preface to first edition.)

"It is fully sufficient to have a list of authorities appended at the end of the article" (*Ibid.*), and thereby "avoid interrupting the thread of the author's argument." (*Ibid.*)

In the preface to the fourth edition, Bartholow acknowledges the tendency of the modern currents of prescribing towards a more accurate method of giving drugs.

"True to the idea expressed in the first edition" (these are his words), "I have, as far as possible, accepted the results of physiological research, but have not ignored the facts obtained empirically.

"Unquestionably the tide of therapeutic knowledge sets strongly in the direction indicated by the former, and the latter is as distinctly ebbing outward.

"On all sides the conviction is growing that the real and permanent advances in therapeutical art must be effected chiefly by the physiological method. Nevertheless, empirical facts of undoubted value are occasionally brought forward. In 'the shapeless mass of inexact ideas,' as Bichat entitled empirical observations, there are often found genuine therapeutical gems."

The following may be taken as a summary of Bartholow's views on the questions that most concern us in this inquiry:

(*a*) He thinks that *he alone* should be the judge of facts and of testimony, and that *his* "composed judgment" and *his* "matured experience" are all that should be presented in materia medica and therapeutics.

(*b*) He is supremely confident that he has presented in his book,

of about eight hundred pages from cover to cover, the results of the study of the "fullest details of the physiological action of drugs." This study has, he assures us, been "pursued into the closest recesses of nature."

(*c*) The tide of therapeutical knowledge is setting strongly towards physiological research into the action of drugs, and away from empiricism, which is "but a shapeless mass of inexact ideas."

(*d*) He has a strong conviction that physiological antagonism is the most important factor in the therapeutic use of drugs.

(*e*) He suggests no rule for the application of our knowledge derived from physiological experiments.

Regarding the value of symptoms, I quote the following from the introduction of Ringer's *Therapeutics:*

"I have thought," says Ringer, "it might prove useful to the student and young practitioner to insert in this edition a brief account of the symptoms of disease. Of late years, since attention has been drawn more to physical signs, too little heed has been paid to the detection and appreciation of symptoms, objective and subjective. The reason is obvious. Physical signs are soon learned, while it requires a longer time, more patience and a more discriminating observation to appreciate the meaning and estimate the value of symptoms.

The indications of disease are divided into "Physical Signs" and "Symptoms." The direct information we gather from the pulse, etc., are the objective symptoms; the indirect we gather from the patient's description of his own feelings and sensations, known only to himself; these are the subjective symptoms.

Physical signs, as a rule, help us detect only coarse and decided changes, and are chiefly useful in diagnosis, *whilst symptoms are far more useful guides in prognosis and treatment.*

"It may be objected," he continues, "that before we can efficiently treat a patient, we must form a correct diagnosis; hence physical signs, by greatly assisting in this respect, must likewise greatly aid in the treatment.

"In some measure this proposition is true; *but when we accurately diagnose the disease, we treat in most cases the secondary effects rather than the primary disease, and these secondary effects generally make themselves known solely as Symptoms.*

"Only in a few instances, as in ague and syphilis, can we cure the disease itself, but in other instances we must be content to combat the secondary effects. A disease often endangers life not

by its direct effect upon the part affected, but through the secondary effect upon some other organs. Thus, in pneumonia the danger often lies, not in the condition of the lungs, but in the nervous and cardiac depression.

"In such cases the effects are manifested solely by the symptoms, and without proper attention to, and due appreciation of, these symptoms, it will be so much worse for the patient. Instances like this might be multiplied to any extent. Moreover, there is a wide range of diseases in which physical diagnosis is unavailing, and when there are only symptoms to guide our treatment." (Preface to twelfth edition.)

If the shades of Hahnemann and his co-workers could return after nearly a century, they might feel encouraged to find that such a man as Sidney Ringer, in the twelfth edition of a work on therapeutics, begins to recognize those principles, in treating the sick, which they taught clearly a century ago.

Ringer's estimate of the value of symptoms in the healing of the sick is as thoroughly Hahnemannian as Stillé's estimate of the value of alteratives.

Hare's book is, in many respects, the most unsatisfactory work of the five quoted. Thus, it would seem the later the publication the more flimsy becomes the quality.

"The indication for a drug is any symptom, or series of symptoms, which we know the drug will relieve without causing at the same time an evil effect to be felt by other parts of the body." (P. 128.) Such is Hare's definition for the indication of a drug.

It follows from this that symptoms are sought to be relieved, and not causes or morbid pathological conditions. But on a previous page he has said, "The entire basis of Homœopathic therapeutics rests, not upon the study of the causes of disease, but of the symptoms which present themselves. As a result of this, so many minor symptoms are relieved that the patient's comfort is ensured, and doubtless in many instances many serious disorders are discovered, which might otherwise be cast aside or go unseen."

If this be true, it would seem that a "*course of treatment that ensures the patient's comfort,*" and "*in many instances discovers serious disorders, so obscure that* 'regular medicine' might cast them aside or allow them to go unseen," is not such a bad method after all. Nevertheless, Hare, on a previous page, states that "Homœopathy, or therapeutic nihilism," is the result of the careless methods of the physicians of the last century. (P. 17.) We are also told, in another

place, "that the therapeutist is able to treat successfully many diseases of which the pathologist knows nothing, and is obliged to rest his treatment on empiricism simply because he cannot tell how his drugs act, if the pathologist cannot tell him what the disease *is*. Rheumatism is a good example of this." (P. 17.)

The plain and only implication in this is, that when the pathology is understood the treatment becomes very simple. A good illustration of this view of the treatment is found in the *Twentieth Century Practice*. Dr. MacLogan, of London, takes above 140 pages to tell how to treat rheumatism with salicylic acid, and "the alkaline treatment." These two methods are all that are recommended, if we except "mint-water treatment." Of course this is not medical nihilism; it is scientific medicine. In the same volume, *Twentieth Century Practice* (Vol. ii.), Dr. Lyman, of Chicago, takes 182 pages to treat gout, with results that are but little better.

Dr. Archibald E. Garrod takes over 60 pages for arthritis deformans, with no better results as regards treatment. All these authors are prolific in etiology and pathology, and all the "ologies" that consign the patient to the bourne whence none return, but invariably reticent as to means and methods to delay his departure.

"Medicines," says Stillé, "are substances used for the cure of diseases. There is no natural difference between a medicine and a poison. All medicines are not poisons, nor is every poison necessarily a medicine. But with scarcely any exception, substances which in a single (large) dose are capable of destroying life, are also in a certain less amount adequate to save life. Their deleterious action is only an excess of their salutary action; and generally the former is proportioned to the latter." (Vol. i., p. 18.) He continues: "The *action of medicines upon the sound organisms of man and the lower animals forms an indispensable key to their curative operation in disease*. The more thoroughly this is known the more intelligible must become the mode in which medicines bring about the restoration of soundness of structure and function; *and the more will isolated facts of therapeutics tend to arrange themselves in a systematized form*." (Preface to first edition, Vol. i.)

He acknowledges that at present there is no therapeutic law. "But," he says, "it would have been unpardonable to leave out of sight the fragments of scientific knowledge, which may one day serve to *bridge the chasm between theory and practice*, and convert the precepts of therapeutics into laws." (*Ibid.*)

Stillé continues: "*Our knowledge of the usefulness of medicines rests*

altogether upon experience, but not of that of any one man, however skilful, or of any one age, however enlightened." (*Ibid.*)

Space and time forbid quoting all that Stillé has to say concerning the value of experiments upon the healthy human organism, in order to ascertain the powers of drugs to cure disease, but one most significant passage must be quoted:

"In conclusion," says Stillé (Vol. i. p. 38), "while we desire to impress upon the reader that the *scientific physician should first of all acquaint himself with the action of medicines upon the healthy organs, and next should learn their comparative operation upon the same organs in disease*, yet it cannot be too often repeated *that simple experience forms the only crucible* in which the therapeutic fact or doctrine can be fairly tried. Whatever sustains this test, may be accepted as a real and permanent addition to our therapeutical resources. *But results of experiments upon the healthy organism cannot possibly attain to such importance;* they can only illustrate the manner in which medicines cure disease, as physiology illustrates the phenomena which constitutes disease."

Here is the rock on which we split. How does Stillé *know* that "the results of experiments upon the healthy organism cannot possible attain to such importance?" He said above, "The scientific physician should first of all acquaint himself with the action of medicines upon healthy organs, and next should learn their comparative operation on the same organs in disease."

Had Stillé strictly carried out this plan, he would have written a Homœopathic materia medica in every sense of the word. It is his failure to make these comparisons that has kept him, and all other scientific authors of Allopathic materia medica, outside of the Homœopathic fold. Prejudice has blinded the eyes of the rest.

I will again call upon him to bear testimony as to how this work should be done. "In pursuing this investigation"—these are his exact words—"it is not the effect of a medicine in one disease alone which we can expect to reveal its peculiar mode of action. *Its apparent action must be observed and compared in various diseases*, at different periods also of the same disease, and, *moreover, according to the dose in which it is administered.* Whether or not this method will conduct to a knowledge of the manner in which medicines cure diseases, may very well be doubted; but, what is more important, *it determines with all possible accuracy the circumstance under which a particular remedy must be given to ensure its appropriate effects.*" (Vol. I., p. 30.)

What could have led Stillé to prejudge the results of such comparison does not appear from anything I have been able to find. It would seem the most natural thing in the world that he should have instituted such a comparison, one which he so clearly points out again and again.

In discussing the "Sources of Knowledge Respecting the Action of Medicines," he thus clearly states the case (Vol. I., p. 28):

"In studying the relation of medicines to the cure of disease, two questions evidently claim precedence to all others; the *first* is, *does* the medicine really produce or promote the cure? and the *second* is, in what *manner* does it operate?

"The former of these can be answered *by the results of experience alone;* the latter, *partly by analysis of the same experience, so as to detect the different steps by which the curative results are obtained*, and partly *by means of experiments upon healthy persons and upon animals*, WHICH DEMONSTRATE THE ESSENTIAL ACTION OF THE MEDICINES EMPLOYED."

The summary of Stillé's position is as follows:

(*a*) Small doses render poisonous drugs salutary under proper conditions.

(*b*) The action of medicines upon the sound organism forms an indispensable key to their curative operation in disease.

(*c*) No known therapeutic law exists.

(*d*) Our knowledge of the usefulness of medicines rests altogether on experience.

(*e*) The scientific physician should first of all acquaint himself with the actions of medicines upon healthy organs; and next should learn their *comparative operation* upon the same organs in disease.

(*f*) The results of experiments upon the healthy organism cannot possibly attain to the importance of experimental tests in disease; they can only illustrate, as physiology illustrates pathology. But *they demonstrate the essential action* of the medicines employed.

The voice of "one crying in the wilderness" was scarcely more significant than are the words of H. C. Wood in his Preface to the First Edition of his *Therapeutics*. It is not dated, but doubtless reaches back to 1865. He says: "The old and tried method in therapeutics is that of empiricism, or, if that term sounds harsh, of clinical experience. As stated by one of its most ardent supporters, the best possible development of this plan of investigation is to be found in a close and careful analysis of cases before and after the administration of a remedy, and, if the results be favorable, the continued use of the drug in similar cases. It is evident this is not

a new path, but a highway already worn with eager but weary feet of the profession for two thousand years.

"Therapeutics developed in this manner cannot, however, rest upon a secure foundation. What to-day is believed is to-morrow to be cast aside; certainly, this has been the law of advancement, and seemingly must continue to be so. What has clinical therapeutics established permanently? Scarcely anything beyond primary facts, that Quinia will arrest an intermittent, that salts will purge, and that Opium will quiet pain and lull to sleep.

"*To established therapeutic facts* the profession clings as the heart and hand of one man; clings with a desperation and unanimity whose intensity is the measure of the unsatisfied desire for something fixed. Yet, with what a Babel of voices does it celebrate its two thousand years of experience!

"Experience is said to be the mother of wisdom. Verily, she has been in medicine rather a blind leader of the blind, and the history of medical progress is a history of men groping in the darkness, finding seeming gems of truth one after another, only in a few minutes to cast each back to the vast heap of forgotten baubles that in their day had also been mistaken for verities. In the past, there is scarcely a conceivable absurdity that men have not tested by experience and, for a time, found to be the thing desired; in the present, Homœopathy, and other similar delusions, are eagerly embraced and honestly believed in by men who rest their faith upon experience. Since the profession has toiled so long and found so little, *if further progress is to be made, we must question the old methods and search out new ones which may lead to more fruitful fields.* It is the especial province of the therapeutist to find out what are the means at command, what the individual drugs do when put into the human system. *It is seemingly self-evident that the physiological action of a remedy can never be made out from a study of its use in disease.* Under all circumstances, the problem is one of the most complex with which the human mind has to grapple, and to introduce into this problem the new and ever-varying factors of the effect of disease, and its natural vibrations on the system, is to put the matter beyond human prescience. In spite, then, of Dr. Niemeyer's assertion, that experiments made with medicaments upon the lower animals, or upon healthy human beings, have as yet been of no direct service in treating disease, and that the continuation of such experiments gives no prospect of such service, *it is certain that in these experiments is the only rational, scientific ground-work for the treatment*

of disease. We must discover what influence a drug exerts when put into the body of a patient before we can use it rationally, and we gain this coveted knowledge only by the method indicated." (Wood, Preface to the first edition, pp. 7–9.)

But it is not possible, perhaps, for fallible man to always be consistent with himself. In his moments of sincere insight—when he frees himself from the overpowering influence of habits, associations, and prejudices—he may utter the naked, undisguised truth *as his soul sees it.*

But later on he is apt to evade, qualify, and modify to suit those prejudices, habits, and associations, from whose power he cannot wholly free himself.

Such is Wood's *d claration of principles*, as set forth in the *formal part of his work*, when compared with the statements just quoted.

He says (p. 101): "The term or expression, '*indicat on* for a given remedy,' being in constant use, ought to be distinctly understood; by it is meant *the pointings of nature*, or in other words, *the evident needs of the system.*

"Thus, hard fæces collected in the colon are an indication for a purgative of such a character as will produce watery secretions to soften them.

"*Relaxation in a part* indicates a remedy that will awaken into new life the natural contractility of the part; *i.e.*, an astringent. Again, the suppression of a secretion from over-excitement or from irritation, is an indication for a drug that will allay irritation, while the same suppression, when dependent upon torpor or loss of cell-activity, will call for an excitant—an irritant.

"The childish absurdity of treating symptoms by any such law as 'Similia similibus curantur,' or 'Dissimilia dissimilibus curantur,' is at once apparent.

"*The same symptoms* may be the result of absolutely antagonistic conditions, and require absolutely opposite treatment. Without occupying space with details, one example will suffice.

"*Either irritation or depression of the stomach* may cause vomiting. Therefore in one case of vomiting a stomach stimulant, such as Ipecacuanha—which, if freely given in health, will produce vomiting—may relieve the nausea, because the depressed stomach needs a stimulant to bring it to the normal level. In another case a stomach which rejects food, because it is irritable, needs a sedative like Bismuth, which in health will not produce vomiting.

"In the first the law of similars seems to hold good; in the second the law of dissimilars seems to be dominant.

"*A law of nature has no exceptions. If an alleged law of nature has exceptions it is not a law.*

"It is plain, therefore, that neither of the alleged laws of similars or dissimilars is, in truth, a law.

"*They are the results of coincidences, the expressions of half-truths.*

"*Symptoms* are, indeed, *but the surface-play* of disease, and the rational therapeutist always seeks their hidden meaning. The conscientious physician refuses to practice upon Homœopathic, Allopathic, or any other restricted basis, but gleans therapeutic knowledge from all sources, guiding himself, as far as may be, by the light of reason and science, but not hesitating to go beyond, into the region of the unknown and uncertain, when distinctly led by the lantern of Empiricism." (Pp. 101–102.)

This statement of opposition to the law of similars is perhaps as strong as any fair statement could be. It is not bitter; it is to a certain extent free from prejudice, at least as free as could be expected from an Allopathic author.

In reply, it should first be premised that much useless discussion often arises from misapprehension of the meaning of terms; and second, from ignorance of the actual position of either party. When these two objections have been removed little will remain to be discussed in the above declarations of objections.

First, Wood misapprehends the meaning of symptoms as used by Homœopathy. If any one holding his views will take the trouble to carefully study Hahnemann's directions "How to take a case" (*Organon*, Secs. 82–104 inclusive), he will find that no sign, symptom or information whatever is to be omitted in studying a case of disease. It makes no difference how Homœopathy may be applied by certain individuals, this is the rule. Hence it follows that in the two cases supposed by Wood the symptoms are not the same, else neither he nor any one else could have distinguished one case from the other. *If the cases were different they required different drugs to treat them*, just as Wood says, and any genuine Homœopathic practitioner will agree with him in this. Symptoms have no such narrow meaning as he assigns. They embrace *all phenomena* of every sort that distinguishes one case from another.

Again, any one studying the sections from Hahnemann mentioned would also learn that not one symptom is to be overlooked in considering the selection of the remedy. While some are given more prominence than others, it is "*the totality of symptoms*" *that is always to be observed and considered in selecting the remedy.*

Hence while Ipecacuanha might have been called for in the first

case, it certainly would not have been in the second, according to the Homœopathic law. Again, Bismuth is not a drug according to the Homœopathic definition, if we take Wood at his own statement.

"Bismuth will not produce vomiting in health," says he, on page 102.

Let us see if he is correct in this assertion. On page 468 this same author says:

"The actions of the subnitrate and of the subcarbonate of Bismuth are so exactly similar that they can practically be considered one. Orfila and others of the older observers attribute to Bismuth violent irritant properties, reporting severe symptoms and even death from its ingestion. These results were, however, due, not to Bismuth, but to the Arsenic with which it was contaminated. *The soluble preparations of Bismuth are, it is true, irritant poisons*, but the insoluble subcarbonate and subnitrate, when pure, have practically no irritant properties. It was formerly denied that they are dissolved at all in *the alimentary canal; but it is now certain that they are very slowly absorbed, and as slowly eliminated.*" He also quotes authorities to show that "*when the subnitrate has been administered the metal can always be detected in a few hours in the urine.*"

But this is not all. On the very next page Wood gives more evidence to show that the insolubility of the subnitrate and subcarbonate is all a mistaken myth, and that they are active irritant poisons, "as are the more soluble preparations."

"The discovery," says Wood, "that the most insoluble Bismuth preparations are actively antiseptic led to their use in surgery and to the further discovery that when applied to extensive wounded surfaces they are absorbed to such an extent as to produce a poisoning which is characterized by a peculiar *acute stomatitis followed by intestinal catarrh, with pain and diarrhœa*, and in severe cases with desquamative nephritis." (P. 469.)

He further states "That repeated large doses given by the mouth produce gradual failure of strength, a peculiar stomatitis and evidence of gastro-intestinal irritation, with death from exhaustion." (*Ibid.*)

From this we conclude that Bismuth subnitrate is an active irritant poison, and that it is, though very slowly, absorbed when taken by the mouth; second, that it allays vomiting of an irritated stomach when absorbed in very small quantities.

Hence we conclude that the cure in the Bismuth case cited was as

truly according to the law of similars as the acknowledged case of Ipecacuanha.

To sum up the case:

Wood errs in supposing that Homœopathy would have treated the two cases cited alike. *The evidence he gives* goes to prove that the opposite would have been the case.

He errs, according to his own book, in saying that Bismuth subnitrate or subcarbonate will not produce vomiting.

He errs in *restricting symptoms* "to the surface-play of disease." Homœopathy does not so understand the term.

He errs in supposing that anything which can be attributed to a diseased state, either as cause or effect, subjective or objective, is omitted by Homœopathy in taking account of symptoms.

He is right in saying "that a law of nature has no exceptions."

He is right in saying "if an alleged law of nature has exceptions it is not a law."

He is right in saying the conscientious physician gleans therapeutic knowledge from all sources.

He is wrong in saying he refuses to practice on a Homœopathic basis.

He is wrong in being led by the lantern of Empiricism.

He is right in saying that "therapeutics developed by empiricism cannot rest upon a secure foundation."

He is right in saying that two thousand years of empiricism has established next to nothing definitely and surely.

He is right in saying "that if further progress is to be made in the Allopathic School, it must be by discrediting the old methods and seeking new ones.

He is right in saying "Medicine can never rise from the position of an empirical art to the dignity of an applied science" by the old methods.

He is right in saying that "it is certain that experiments made with medicines upon the lower animals, or upon the healthy human beings, are the only rational scientific groundwork for the treatment of disease."

"*Alteratives,*" says Stillé, "are medicines *which, in appropriate doses, modify the nutrition of the body without producing any antecedent phenomena.* No other division of materia medica contains more substances which, in large quantities, may become mischievous to the organization of the body, and even destructive to its life. They constitute some of the most powerful agents of the irritant class.

Iodine, Chlorine, the alkalies, Mezereum, and Colocynth are eminently of this nature, and some of the compounds of Arsenic and Mercury are violent poisons; yet, when duly administered, they silently penetrate into the most secret recesses of the diseased organism, and bring about such changes in its nutrition, or in the condition of its ultimate particles, as may result in their renovation and the return to health." (Stillé, vol. ii., p. 733).

To him who reads aright, *the facts of cure by the law of similars stand out in almost every drug in Allopathic materia medica.* To him who reads through prejudiced eyes, the truth spread on almost every page is hidden, and the most natural relations of phenomena are obscured. Allopathic materia medica, read in the light of demonstrated facts, patent to every one who knows Homœopathy, is the most convincing confirmation of the law of cures by similars that can possibly be adduced.

The passage above, quoted bodily from Stillé's introduction to what he calls "Class 12, Alteratives," is one of the most complete announcements of the principles of Homœopathy ever written. "Medicines which, in appropriate doses, modify the nutrition of the body without producing antecedent phenomena, but which, in large quantities, may become mischievous to the organization of the body, and even destructive to life itself; compounds that are violently poisonous, yet, when *duly administered*, silently penetrate the most secret recesses of the diseased organism, and bring about such changes in its nutrition, or in the condition of its ultimate particles, as may result in their renovation and the return to health," are Homœopathic remedies *per se* in the strongest sense of the word, and act as all Homœopathic medicines always act under all circumstances and in all cases.

The great central truth of Homœopathy is, that it has learned how to use all drugs as alteratives. There is but one class of drugs from the Homœopathic standpoint, and that class is alteratives.

When one reads Allopathic materia medica, fully presented as it is in Stillé, and fragmentarily presented as it is in the more modern writers, Wood, Bartholow, Ringer and Hare, he cannot help exclaiming, with the great apostle to the Gentiles, "Blindness has happened in part to Israel until the fulness of time is come." Examples of the Law of Similars abound in the use of every drug from A to Z in Allopathic materia medica *where the physiological effects of both small and large doses on man have been demonstrated*, and where the effects of both small as well as large doses on the sick have been thoroughly tried.

In many drugs *the effects of small doses* have been overlooked, or purposely neglected in investigating the physiological effects of the drug upon man. In not a few drugs the *curative effects of small doses have never been tried;* in still fewer very powerful drugs, *from ignorance of the law of small doses as above set forth by Stillé*, the utility of small, even the smallest, doses, has never been experimentally demonstrated. In all these cases there is a hiatus in the experiments which Homœopathy supplies perfectly, and demonstrates the error of such imperfect and unscientific investigation of the relations of drugs to diseases as is always embraced in partial experimentation. It is surprising how often and how unconsciously Allopathic authors give expression to a belief in the law of similars, and explicit directions for applying drugs according to its rules. This has been illustrated by the abundant quotations already given.

"But," interposes some one who is incredulous of these conclusions, "how can this be and the law not have been recognized before this by the Allopathic school?" My reply is: Prejudice and an overruling self-satisfaction, not to say self-conceit, are a most effectual barrier to investigation and progress in any branch of learning.

It has been the custom, not to say the habit, of every Allopathic writer and teacher of materia medica from the time of Hahnemann to the latest authors, to stoop to scurrility when barely mentioning the name of Homœopathy. I have quoted a few examples of this method of argument. Medical nihilism, quacks, deceivers, etc., are among the choice terms employed.

Such ungentlemanly, unmanly and unseemly abuse can never go hand in hand with proper scientific investigation in any department, and least of all in medicine. Nothing blinds the eyes so effectually as prejudice, and this blindness is not only progressive, but through the psychological sympathetic system it warps the justness of every conclusion regarding facts. Not only does the patient suffering from this phase of moral disease fail to see, he does not want to see, he prefers not to see. The scientific spirit cannot harbor for a moment such sentiments and not invalidate in an important degree all conclusions on the subjects investigated. Oil and water mix much more quickly than prejudice and the spirit of true scientific investigation. The true scientist in any department of knowledge, *from the least to the greatest*, is not only *willing, but eager to learn*, at *all times*, *anything* from *anybody* that in the least bears upon the subject of investigation. No matter how much opposed it may be to the views he now entertains, he will patiently, dispassionately, and so far as in him lies, justly consider all the recommendations as well as all

the objections urged or embodied in the new views. Says Confucius: "I esteem that man great who is always ready to change his views upon sufficient evidence."

When a man *has not the opportunity* to learn, he is *unfortunately* ignorant; when he is *unwilling to learn*, he is *wilfully* ignorant; when he does not *wish* to learn, he is *wickedly* ignorant; when he misrepresents facts to himself to bolster up his preconceived opinions, he is *foolishly* ignorant, and there is no hope for him.

The *ignorance of the law of the drug cures by small doses* in the Allopathic profession to-day *partakes of one or more of each of these four phases*, according to the individual and his surroundings; hence, it is not wonderful that the law of similars has always been *combated* rather than investigated. The sincere scientific man does not investigate *to combat*, but *to learn*, and no man has ever investigated Homœopathy in the true scientific spirit and not been converted to the faith.

To us, ladies and gentlemen, members of the Homœopathic profession, believers in the law of similars, there remains a serene and abiding confidence that comes from being in harmony with the plan of the universe.

We are co-workers with nature's forces. What matters it that *we are in the minority of numbers;* that we are often misunderstood, misquoted, traduced and maligned. What matters it that we have arrayed against us prejudice, superior numbers, superior wealth, superior patronage, superior power. There are times, there have been times and there will in the future be times, when one man, with all the rest of the world arrayed against him, is, nevertheless, in the majority! Such was Galileo, when he declared that the sun stood still and the earth moved; such was Copernicus; such was Charles Darwin, who never gave voice to one revengeful word; such was Samuel Hahnemann, hounded from hamlet to hamlet and city to city, forced to move eleven times in twenty-two years. Such a man is a majority, though he be alone; though the hand of revengeful prejudice, with thumb-screw and rack and fagot torture such an one to recant *aloud*, still his single whisper is in the majority; and such a man can well afford to bide his time. He may be calumniated, misrepresented, traduced; the tongue of slander and scurrility may be loosed against him; ridicule may lead the hordes of ignorance against him; sarcasm and invective may level their shafts at him; the flippant and the insolent may vent their spite and their folly upon him; still he is in the majority, and can well

afford to await the *verdict of time* and the judgment *of coming generations.* And he shall triumph beyond a peradventure; for the forces of the universe are on *his* side, and the God of the universe is his ally.

The *truth of cure by the use of drugs according to the law of similars, once discovered and announced,* becomes a boon to the human race, and AN ENDURING PRINCIPLE. The truth of such a cause stands like a granite mountain peak. Storms may gather about it and clouds hide it from view. For leagues and leagues the country may be covered by the raging forces of a grand cyclonic storm; for days the winds roar and howl, the rains pour, the floods rage; trees of the mountain forest are torn up by the roots; the flocks and herds of the great plains are driven and scattered by the mighty tempest; *men* are *fain* to find any shelter until the fury of the storm be overpast. During all this time there *is* no mountain. There *is* obscurity, and commotion, and clouds, and wind, and wreck and terror.

Finally, the great storm wave sweeps on across the continent. Calm follows, the clouds grow thin, and just before the dawn the eternal stars look down. The morning sun dissolves the last bank of clouds, and scatters the low-lying mists. There stands the same mountain peak. Its sides have lost a *few insignificant trees;* the lightnings have left a few scratches on its eternal rocks, the torrents have worn a little deeper its unconsequential ravines; but the same bold outlines of imperishable granite are there, removed not for a hair's breadth from where they stood before the storm's fury overwhelmed them. How calmly, how serenely that granite peak stands among the brotherhood of mountain-peaks the wide world over. There they stood ages and ages ago, and there they will stand when you and I have turned to dust, melted away and become lost in the trackless void of a forgotten past. How puny are our personal triumphs, our personal fames, our personal successes. How lasting, how unchanging, how eternal are Great Nature's Laws.

The Clinical Efficacy and Superiority of the Law of Similars: Is It a Reliable Guide in the Practice of Medicine?

By John P. Sutherland, M.D., Boston, Mass.

Before proceeding to the discussion of my theme, allow me to express my deep sense of obligation to your Committee for inviting me to speak on so vital a subject. Deeply appreciative as I am of the honor thus conferred upon me, I cannot for a moment permit myself to overlook the stupendous proportions of my allotted task. To prove from a rigidly and absolutely scientific standpoint, the "Clinical Efficacy" of the Law of Similars is a task to awe the most enthusiastic, the most experienced and the most judicial mind among us. The "Clinical Superiority" of this Law is more easily proven. Without pretending to the possession of the unlimited enthusiasm, the universal experience or the infallble wisdom necessary to the perfect solution of the problem, let me, in all honesty and with sincerity of purpose present my views and express opinions which have been formulated only after as mature deliberation as has been possible to me in a life somewhat overburdened with varied and perplexing duties.

The end of our first century is an appropriate time for us to pause, take a deep breath, and courageously, critically and in not too credulous a spirit cast our balance-sheet with the century and see where we stand. This is not the time for "spread-eagle oratory." It is rather the time for the most sober, serious and liberal discussion of one of the most important subjects that can come before the profession of which we form no insignificant portion. With our present object in view, conservatism is certainly preferable to unlicensed enthusiasm.

As to some of the difficulties in the way of a scientific solution of the question before us. The problem as a whole involves such questions as What is Life? What is disease? What are Nature's resources and methods in restoring to health? By what laws does

Nature produce disease and recovery therefrom? Do drugs possess a curative action? How much may the physician reasonably expect to accomplish in his warfare against disease? To what extent can he accelerate recoveries, mitigate suffering, or by prophylactic hygiene and medication prevent the development and ravages of disease? Many of the factors the physician has to deal with are unknown quantities, but nevertheless very potent influences. The vital force of the individual patient, his powers of resistance and recuperation—can these factors be isolated and estimated at their true value? Life itself has been called "A Constant Battle with Death," and the mortality of the material body is commonly accepted as a foregone conclusion. An instinctive desire to live, plus a dread of suffering, forms the strongest motive power in men's efforts toward the cure of disease. Recovery from disease is even yet almost universally attributed to some effort on the part of the individual, or his friends, which effort may have been, and not infrequently has been, actually pernicious. Belief in the efficacy of these efforts was the result of ignorance in the early history of the race, and this belief gradually became transformed into a superstitious reverence for and confidence in the measure used, until finally there became rooted deeply in the human mind a potent fear of *not* resorting to some penitential offering, religious rite, incantation, or the administration of some mysterious compound or drug-mixture as a cure of disease. This belief has for centuries "ruled the day," and it still too frequently usurps the place which should be occupied by knowledge. This factor in our problem, a blind belief in the necessity and the efficacy of human interference with diseased conditions even now prejudices humanity, making the growth of therapeutic knowledge a difficulty not easily overcome.

With these introductory remarks as an indicator of the mental attitude which, in my opinion, should be ours in considering the subject before us, let me ask for your patient and unbiased attention during the limited time at our disposal. My topic is a threefold one. First, the "Clinical Efficacy;" second, "The Superiority;" and third, the "Reliability of the Law of Similars."

First, as to the "Clinical Efficacy" of the "Law of Similars." It is necessary to have certain very definite views concerning the possibilities of the clinical test before drawing conclusions as to the efficacy of any method of practice. The views ordinarily entertained are somewhat too vague and ill-defined to be made use of as a standard of comparison. The difficulties, however, in the way of

establishing definite and satisfactory standards are best appreciated by those who have attempted the task. In order to present other than my own personal views on this point, I asked a few colleagues (some six weeks ago) to give me what they considered "the best proof of the clinical efficacy and superiority of the law of similars." The answers I received came from thoughtful, experienced and successful practitioners, and expressed honest opinions and deeply-rooted convictions which, while varying somewhat in degree of optimism or pessimism, agreed in the fundamental idea that the only proof of clinical efficacy was to be found in scientifically tabulated statistics. On every side one hears that the crucial test is clinical experience, but nowhere does one find this "crucial test" outlined with the definiteness and accuracy that promise a speedy settlement of the vexed question as to the efficacy of any method. I purpose, therefore, presenting a few ideas concerning the "clinical test" as preliminary to a discussion of the superiority of Homœopathic methods of treatment.

What is the "clinical test?" What are its fallacies? What are its virtues? How may it be convincingly applied? Concerning the value of clinical experience, it is interesting to note the diverse views entertained on the subject by prominent authorities in traditional therapeutics. According to H. C. Wood, therapeutics developed through clinical experience cannot "rest upon a secure foundation." He says in his work on *Therapeutics*, 1891, p. 8: "Experience is said to be the mother of wisdom. Verily she has been in medicine rather a blind leader of the blind." The laboratory method is advocated by him as the most reliable source of therapeutic indications. And John Aulde, in his little book, *The Pocket Pharmacy*, claims that "too much dependence has been placed upon the deductions from laboratory investigations," and says, on p. 8, "clinical experience is the crucial test; physiological and chemical postulates, however attractive, are entitled to become a part of the medical edifice only after their true value has been estimated by this searching inquiry."

The clinical test in its broad sense is the actual application of any measure with a distinct view to amelioration of suffering or hastening recovery from any diseased condition. The individual on whom the test is made need not be bed-ridden, but he must be in an abnormal state and seek by artificial means to correct the abnormal state and transform it into one of recognized normal function or condition. The artificial interference may be through the applica-

tion of drugs, or the use of diet, electricity, mechanical, manual, mental or any other influence capable of producing an effect on the organism. The general term "therapeutics" now applies to the use of any or all of these influences.

In estimating the value of clinical experience testimony must be clearly and definitely presented, and, as in law, subjected to a searching and rigid cross-examination. The witnesses summoned are:

I. The existing abnormal or pathological condition, *i.e.*, the disease itself.

II. The patient.

III. The patient's family.

IV. His friends.

V. The attending physician.

VI. The statistician, whose testimony is presumably based upon an impartial and disinterested review of all accessible facts.

The first witness summoned is one whose testimony is rarely allowed a full and equitable hearing. The clinical test is more frequently wrecked upon the unrecognized obstacle offered by the pathological state than upon any other. The medical profession itself has been reprehensibly slow in recognizing the true value of pathology in its relation to clinical experience. Pathology is only altered or morbid physiology, and diseases are but the visible manifestations of a warfare between the life energy of the individual and some disturbing influence. It is this "life energy" that alone and always is the active force that overcomes the disturbing influence and restores a morbid to a natural "physiological" condition. Never yet in the known history of man has nature been allowed untrammelled sway in demonstrating her curative powers, and it is nature's absence from our credit page that renders our balance-sheet defective. Man's egotism and ignorance, his fear of death and his dread of pain have led him to habitually confuse recovery and cure. It is quite time, therefore, for the profession to demand of itself that the natural history of diseases shall be studied with the same careful exclusion of disturbing influences that characterizes the performance of physiological, chemical or other scientific experiments. Nature's methods must be studied, and as far as possible understood. For nature, with her experience of thousands of years' duration, and the laws born of that experience, possesses a wisdom not yet compassed by the children of any one generation.

There is found in medical literature this curious inconsistency:

Text-books on pathology describe in too minute details the origin, course, termination, stages, and complications of diseases, utterly ignoring the fact that these diseases are never or seldom allowed to "run their course" without artificial or therapeutic interference. What conclusion can be drawn from this fact other than that diseases are uninfluenced by the treatment to which they are subjected; for rheumatism, pneumonia, cholera, nephritis, consumption, cancer, eczema, epilepsy and the almost unnumbered diseases which afflict humanity, pursue the same course to-day that they did a century ago or two centuries ago, notwithstanding the fact that to the cure of these diseases therapeutic measures have been heroically and persistently applied, and that medical theories and practices have been revolutionized with every generation.

Let pathology speak, and we shall hear that to the practicing physician or therapeutist diseased conditions are divisible into three classes:

1. A distinct class of acute, infectious, self-limited affections, whose natural tendency is undoubtedly towards recovery, and in which hygienic measures (nursing, diet, bathing, rest, and isolation) play a more important rôle than do medicines or drugs. These diseases range from simple "colds," catarrhal inflammations, etc., which are not considered worthy a place in standard text-books on practice, to the severe types of disease, such as scarlet fever, smallpox, cholera, etc. Such diseases early attract attention, usually cause much anxiety, and form a large proportion of the general practitioner's list of cases. It is in this class of diseases that natural recovery is so often mistaken for cure, and as a logical result of such mistake, the attendant and the treatment prescribed by him receive more credit than is actually their due. It is not my purpose to underrate the services of the intelligent, cautious physician in the treatment of such affections, but to emphasize the fact that the clinical efficacy of any method of drug administration in such cases is difficult to establish.

Apropos of typhoid fever, which belongs to this class, one reads in Osler's text-book on "Practice," p. 37, "The profession was long in learning that typhoid fever is not a disease to be treated by medicine. Careful nursing and regulated diet are the essentials in a majority of the cases." And apropos of pneumonia in the same text-book, one reads, pp. 560–564, "In a disease which carries off one in every four or five of those attacked, the prognosis in a large number of cases is necessarily grave. In children and healthy

adults the outlook is good." . . . . "Pneumonia is a self-limited disease, and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any known means at our command. Even under the most unfavorable circumstances it will terminate abruptly and naturally, without a dose of medicine having been administered. . . . . The young practitioner may bear in mind that patients are more often damaged than helped by the promiscuous drugging which is still only too prevalent."

2. The second class includes a great variety of more or less chronic diseases, the natural termination of which is inevitable dissolution in a great majority of the cases. Such are certain forms of tuberculosis, locomoter ataxia, cancer, diabetes, etc. In this class of diseases much may be accomplished in the way of palliation, but statistics which convincingly establish the clinical efficacy of treatment are not often gathered therefrom.

3. The third class comprises the host of chronic cases of ill health, corresponding to more or less clearly defined types of diseased conditions which tend neither towards spontaneous recovery nor dissolution. It is in this class that we find those cases of long-lived invalids in whom the diseased state seems actually to protect against dissolution, but whose natural resources are utterly inadequate to produce a recovery. The treatment of such cases taxes to the utmost the patience, ingenuity and skill of the physician, but it is in this class, so much neglected, that medicine has its greatest opportunities; for where spontaneous cures or "natural recoveries" are of rare occurrence a restoration to health is more likely to be the direct result of medical treatment. The difficulty of tabulating such cases renders this class practically useless for statistical purposes. It is in this class, however, that Homœopathy has won many triumphs, and is destined to win many more. Probably no physician has given more profound and critical study to the cure of chronic diseases than was given by Samuel Hahnemann, and it would be well for all his followers to familiarize themselves with the principles underlying the successful treatment of these ordinarily incurable cases, as promulgated in his great work, but recently offered in an English translation, of "*The Chronic Diseases: their Peculiar Nature and their Homœopathic Cure*," edited by that indefatigable champion of Homœopathy, our President, Dr. Pemberton Dudley.

Several of our witnesses, the patient, his family and his friends, taken collectively, comprise the laity.

In weighing the evidence of the laity, it is well for us to think of something else than the perfervid statement of some patient: "O, Doctor, how can I ever thank you? You saved my life!" "Never knew anything to act so quickly as that stuff you gave me, Doctor." "That medicine was simply invaluable, Doctor; we could not have gotten along without it." Such statements will affect a physician according to his temperament, his ideals and his knowledge. He may be flattered into acquiescence; he may know he did something towards producing the recovery (and the impression); and he may know he did nothing in the way of treatment capable of effecting a cure. The testimony offered by the laity may or may not be of scientific value. The patient certainly ought to know when he is ill and when he is well, although it not unfrequently happens that an individual must be told that he is ill or well.

Although later I intend to call the laity to the witness-stand to testify as to the Efficacy of the Law of Similars, it is well to bear in mind that in the daily press may be found thrilling testimonials from clergymen, lawyers, legislators, journalists and public men and women, as well as from the unknown and humble citizen, asserting that positive and even miraculous results have followed the use of so-and-so's patent medicine—testimonials, too, in many instances, as enthusiastic and as certainly the outcome of honest conviction as any that either traditional medicine or Homœopathy can boast.

The physician is ordinarily and properly considered the most competent witness among the many who bear testimony to the clinical efficacy of medicinal treatment. From his education and special training, this is as it should be. Nevertheless, it sometimes appears as if the "special training" received in medical schools failed to develop the powers of accurate observation and precise logical reasoning necessary to the thorough, exhaustive analysis of, and the ability to draw correct and reliable conclusions from, clinical experience. If this seems to be too harsh and sweeping a statement, let me remind you of the testimonials from physicians which are included in the thousands of circulars and pamphlets advertising the asserted properties of the "new remedies" constantly being invented and manufactured by enterprising pharmacists and chemists. It is notorious that the physicians of one generation decry as useless, and even harmful, the medicines and remedial measures which were lauded as most efficacious by even the leaders in medicine of the preceding generation, and the physicians of to-day have

cast aside as positively injurious many drugs and methods of treatment which only a few years ago called for and received their enthusiastic advocacy and use. In the light of this inconsistency, is it unjust to regard the testimony even of physicians with caution until, by repeated tests, carefully regulated experiments and critically analyzed results, the testimony is established as trustworthy?

Suppose, for instance, that 10 or 20 years ago an honored and reputable physician claimed to have treated over 100 or 200 cases of diphtheria with a single remedy without even a single death. Shall the statement be accepted as a fact? and shall we all confidently apply the same single remedy to the same disease when it comes under treatment? The honesty of the compiler of these statistics is not to be questioned, but his report should be subjected to the severe critical examination that all alleged scientific facts are subjected to before being accepted as demonstrated. The report must not be cast aside simply because the results or conclusions seem incredible. It is more rational to test the remedy in similar cases, and if the same successful results are not experienced, to assume:

I.—That the diphtheria treated by the reporter is not like the diphtheria we know; or

II.—To assume, in the absence of knowledge to the contrary, that bacteriological examinations were not made, and this important pathological proof being omitted, that the disease was not, in every case, diphtheria;

III.—To assume that the enthusiasm and credulity of the observer led him to "visualize" the disease when it did not exist; in short, that he saw what he was looking for;

IV.—To claim that the single remedy could not have covered the "totality of symptoms" in over one hundred or two hundred cases because of the difference in individuals which must have existed in that number;

V.—To claim if the remedy did such work for one observer, that it must be capable of doing like work for others;

VI.—To reason that if the remedy does not accomplish for us the results attributed to its use, it could not have done so for him; and

VII.—Therefore to conclude that some mistake has been made, and lay the testimony aside.

Strong evidence in favor of the clinical efficacy of the Law of Similars, or any method of treatment, is supplied by the statistician, the manipulator of figures. The numerical method, while

looked upon scornfully by many, is unquestionably the most convincing method of establishing the value of the Law of Similars, as I shall try to prove later on.

Thus far I have simply tried to emphasize the fact, which I am sure is acknowledged by all thoughtful practitioners of medicine, that it is a difficult thing to demonstrate beyond the possibility of reasonable doubt the part played by artificial measures in re-establishing a normal condition in an organism affected by any disease-process. The complex influences which assist in this restoration to health are many of them so elusive and so imperfectly understood that our closest analysis of them often leaves room for doubt as to what is a natural recovery and what a "cure."

Yet in spite of the difficulties I have mentioned there are certain experiences, facts, statistics, which appeal to us as reasonably good proof of the efficacy of similia, while at the same time they tend to prove the "Superiority of the Law of Similars," and to these more encouraging parts of my subject I gladly turn my attention.

The "Superiority of the Law of Similars" implies a comparison. In making this comparison all therapeutic methods are subjected to the same test, the standard being the same in each case. If "clinical experience" and the "numerical method" of comparison be considered reliable in establishing the efficacy of treatment by Allopathic authorities, it certainly must be admitted that the Clinical Efficacy and Superiority of the Law of Similars must stand or fall by the same tests.

For proofs of the Clinical Efficacy and Superiority of the Laws of Similars, the following considerations may be adduced:

The Growth and Permanency of Homœopathy. Seventy-one years ago this great continent possessed but one Homœopathic physician, Dr. Gram, who, though born in this country, was educated in Copenhagen, where, after serving as surgeon in a large military hospital, he was for years engaged in private practice. He was one of the earliest of the European medical converts to the new and gentler method of practice, and in 1825 returned to America, settling in New York City. From this seemingly small beginning, of a single honest and earnest individual worker, the believers in and practitioners of Homœopathy have steadily multiplied, until now they number about 15,000 physicians and some 6,000,000 followers, who control and, almost unaided, support nearly 200 hospitals and dispensaries, wherein were treated last year about 300,000 patients; who control also 33 medical journals and 20 colleges.

This phenomenal growth has been achieved in the face of opposition more virulent, more lasting and more unjust than has been experienced by any other therapeutic innovation in the history of medicine. This growth has not yet reached its limit, for wherever Homœopathy has a reasonably fair opportunity to demonstrate its efficacy, converts are being constantly made. This growth testifies convincingly to the fact that the gentle methods followed under the Law of Similars appeal to the minds of the laity and the profession as satisfactorily efficacious and as undeniably superior to other methods of practice. And this growth testifies also to the permanency of Homœopathy; for a system of practice that so continuously increases in popular favor, is so unchanging in its principles, and is so capable of withstanding, and even flourishing under, systematic, organized and concentrated opposition, may be called permanent without taxing imagination or credulity.

It is significant, in this connection, that the growth of Homœopathy has been more rapid and vigorous in America than elsewhere. Various explanations have been offered to account for this fact. By some it has been asserted that "anything goes in America;" that "Americans like to be humbugged;" that they like innovations. Yet it may be asserted without fear of contradiction that life and health are as sweet to the American; that the health and happiness of his family are as precious to him as to the European; and that the average intelligence and judgment of the American are of as high a grade as can be found among the people of any other nationality. It is certainly true that the liberty of the individual has been fostered to a greater extent in America than elsewhere; that unquestioned freedom of choice in things political, religious and medical exists here as nowhere else as the inalienable right of the individual; that the fabric of society is such that the example and influence of a favored few are less potent; that respect for precedent merely as precedent is less influential; that the aggregate of common sense is not below that possessed by any other people; and that love of fair dealing is as highly prized in America as elsewhere. It is simply a question of opportunity, for in America, as nowhere else, Homœopathy has been allowed the opportunity to demonstrate its efficacy and support its claims to superiority, with the result commented upon—that it is widely adopted wherever tried.

The recognition of Homœopathy as an established and efficacious system of treatment by state legislative assemblies is a sig-

nificant fact. These assemblies always yield to the justice of giving Homœopathy a chance, thus showing their respect for and confidence in the law of similars. Several large state hospitals for the insane have been intrusted to the management of those who practice according to the law of similars, and in these the work has been done so creditably that others will soon be added to the number.

Legislatures willingly incorporate Homœopathic institutions—hospitals, colleges, dispensaries, societies—a proof of the solid standing and admitted efficacy of Homœopathy not to be overlooked.

The Homœopathic practitioner in any community receives and retains the confidence of his patients and the community quite as well as does his un-Homœopathic neighbor—an indication that his judgment and methods are at least as meritorious and trustworthy. He is appointed to honorable and responsible positions on school boards, boards of inspection, boards of health and medical examiners; is elected to high public positions; and by hard-headed business corporations is being recognized as competent to pass judgment on and attend to their medical interests.

As further evidence of the confidence born of experience that is reposed in Homœopathy by the laity, reference might be made to the efforts of the late Major Vaughan Morgan to have the Law of Similars critically tested in the London hospitals. On several occasions Major Morgan offered handsome subscriptions to various London hospitals on condition that the inmates of the free beds supported by him should receive Homœopathic treatment. His offers were in every case declined. The circumstances which attended his last generous attempt to give Hahnemann's method of cure a fair public trial are particularly interesting. St. George's Hospital, London, issued in 1883 most pressing public appeals for pecuniary aid, stating that many of its beds were unused for lack of the funds necessary to their support. On this, Major Morgan offered the managers of the hospital the munificent sum of £1000 per year for five years, on condition that Homœopathic treatment be given to the occupants of the beds supported by him. An unconditional refusal met this generous offer. The Homœopathic laity and profession were confident and willing to submit to the test. Is it unjust to claim that the refusal was prompted by a fear of competition?

Turning to the profession itself for evidence concerning the Clini-

cal Efficacy and Superiority of the Law of Similars, the first fact to attract attention is this most significant one: The conception and evolution of the principles of Homœopathy; the permanent establishment of these principles through their successful practical application; the overcoming of the professional, social, and legislative antagonism excited by its peculiar methods and undoubted successes; the winning of converts by the thousand; the erection of hospitals and dispensaries; the founding of colleges and societies; *all* of these things have been accomplished by physicians who received their medical education and clinical training in Old-School colleges and hospitals. Fully one-half, if not more, of all the physicians in the world who to-day are practicing according to the law of similars are converts from Allopathy. In the light of their successes, in the view of the results of their labors, is it possible for any one to claim that these physicians are incompetent to decide as to the reliability, the efficacy, and the superiority of the Law of Similars?

When we turn to seek individual testimony to the Clinical Efficacy and Superiority of Homœopathy, why need we turn further than to the halls where to-day the American Institute of Homœopathy, imposing in numbers, commanding in intelligence, united in endeavor, ardently earnest in conviction, is found assembled? Surely, the fact in itself, that nearly three hundred physicians, representing education and experience inferior to none in the old world or the new, are assembled to discuss and perfect details of work under that Homœopathic principle which daily and yearly guides them in successful combat with disease, speaks for itself, and with clarion-voice, as to individual faith in the clinical efficacy of Homœopathy! Yet, to this overwhelming collective testimony it is both pleasant and profitable to add a few citations from the many individual letters which have so generously answered the writer's call.

Dr. J. S. Mitchell, of Chicago, Ill., says: "I have been most firmly convinced of the efficacy of Homœopathy clinically, because I have found in my own experience that I could abort or limit diseases with pyrexia, without recurrence or subsequent pathological lesions, to an extent far greater than could be effected by either the expectant or Old-School treatment.

"I have, moreover, been much confirmed in my belief in the clinical efficacy of Homœopathy by the infrequency with which grave pathological conditions follow or attend serious diseases treated Homœopathically. Also, by the fact that our patients much

more certainly escape altogether many diseases quite commonly met with, such as mastitis, puerperal fever, the graver lesions of syphilis and cardiac valvular lesions.

"I am well aware these statements can be disputed. After thirty-one years of experience, however, they are verities to my mind."

Our honored ex-president, Dr. F. H. Orme, of Atlanta, closes a letter to me with this paragraph:

"As a personal reference I may say that, while a graduate in Old-School medicine, I have practiced Homœopathy for over forty-two years, and have always carefully considered, in trying cases, whether I could do better by Old-School methods; and I am satisfied, on looking back, and comparing as far as possible with the results of others, that I have been a better and much more successful practitioner than I should have been if I had adhered to the old methods."

Paradoxical as the statement may seem, Old-School literature offers a rich field from which to glean facts confirmatory of the efficacy of the Law of Similars. The writings of H. C. Wood, Bartholow, Brunton, Ringer, Phillips and others contain therapeutic recommendations which, consciously or not, are based incontestably upon the Homœopathic rule of practice. It would but weary you were I to relate at this time all the examples I have collected of the unconscious testimony to the efficacy of the Law of Similars thus offered by the outspoken opponents of Homœopathy. Let me offer, therefore, but a few of these examples.

Phillips, in his work on "Materia Medica and Therapeutics," 1879, edited by H. G. Piffard, says, when describing the "Physiological Action" of Rhus tox, "Rhus also induces pains, apparently of a rheumatic kind, and which are felt not only in the limbs, but in the body, though most especially about the joints. . . . . The structures most powerfully affected appear to be the fibrous ones. The pains in question are accompanied by a very slight amount of swelling; and, singular to say, they become intensified by rest and warmth. Sleep is greatly disturbed, the patient becoming restless." . . . . Under "Therapeutic Action," he says, "Rhus is a very powerful therapeutic agent in various subacute and chronic rheumatic affections of the fibrous tissues generally," and Piffard adds, as his testimony, "Our own experience fully coincides with that of the author as regards the effect of Rhus in subacute rheumatism. . . . . The pain was always worse at night, and . . . . became so

continuous and severe as to interfere with sleep. After four months of serious discomfort, complete relief followed the use of a few doses of Rhus."

Apropos of Valerian, Phillips says: "Perseverance in its use for too long a period induces a decided tendency to low melancholy, ... and later says: "In hypochondriasis it calms the nervousness, ... and induces sensations of quietude and comfort; sadness is removed, and the hypochondriacal state of mind in general abates."

In Allen Starr's *Familiar Forms of Nervous Disease*, page 302, one finds these words of Dr. Frederick Peterson, who is speaking of Opium in melancholia: "A valuable feature of the Opium treatment is that instead of increasing the constipation coincident with this disease, I have found it to counteract this condition. After a short time the bowels move with regularity every day."

Jonathan Hutchinson, in his work on "Syphilis," emphatically and unreservedly advocates the use of small doses of Mercury as a reliable and curative agent. He says: "In a great number of patients Mercury, if the dose be but small enough, seems itself to act as a tonic. . . . . Everything depends upon the dose. . . . . One simple rule appears to be the key to success. It is to give small doses, more or less frequently repeated, and never large ones. . . . . To the credit of the method by small doses frequently given, it is to be clearly and strongly stated that patients usually improve in health under them." In Chap. xx., Part ii., of the same work, he impartially refers to the opinions and teaching of the non-mercurialistic school, the adherents of which claim, according to Dr. Aitken, whom he quotes: "It is now quite certain, however, that Mercury administered continuously to the extent of salivation, or approaching it, exerts a poisonous influence, and produces constitutional effects very *similar* to those produced by syphilis. . . . . In the extreme of syphilitic infection it ought never to be forgotten that a specific chlorosis results from syphilis, amounting to anæmia, and that Mercury will bring about a *similar* anæmia, while numerous instances are quoted by authors of the poisonous effects of Mercury, inducing lesions *similar* to those of syphilis." Homœopathists can furnish no better argument in support of the efficacy of the Law of Similars and the usefulness of small doses than is furnished by this noted Old-School authority, Jonathan Hutchinson.

Wood, Bartholow and Hare, among American Old-School therapeutists, recommend Mercury bichloride as an antisyphilitic, and Hare commends its use in Bright's disease, diphtheria, anæmia (syphilitic or otherwise), diarrhœa with bloody evacuations, and dysentery.

Ringer, in his *Handbook of Therapeutics*, gives clinical indications for the use of Arsenic, Belladonna, Antimonium tartaricum and Ipecac, among other remedies, that would do credit to a Homœopathic text-book. Speaking of Cantharides, he says (p. 311), "After a large dose all the indications of acute inflammation of the kidneys set in, with much irritation or even inflammation of the urinary and generative organs;" and on page 312 says, he is "convinced of its usefulness in acute Bright's disease," and recommends it "for cystitis and certain bladder difficulties."

Bartholow, in his *Materia Medica*, describes the cathartic action of Ipecac, and says, "both vomiting and purging are sometimes produced by an emetic of Ipecacuanha." He then says, "It has long been known that Ipecacuanha, in small doses, has the power to arrest certain kinds of vomiting. Attention has recently been recalled to this fact." He also says, "It is a singular fact, ... that Ipecacuanha, which was introduced at the close of the seventeenth century as a remedy for dysentery, after a time ceased to be employed in this disease, but has again been restored to the estimation in which it was originally held."

Four years ago a remarkable little book called *The Pocket Pharmacy*, by John Auld, well known as an authoritative writer on Old School therapeutics, was published. The author says, "This small brochure is in the nature of a plea for small doses." He calls attention to the difficulty, "which at present confronts the progressive physician in the administration of large doses. Against this patients rebel, and convalescence is proverbially slow." But the book is more than a "plea for small doses." It contains more testimony to the effective working of the Law of Similars than any book of its size emanating from an Old-School authority, and this is no insignificant statement. Among the tributes which it pays to Homœopathy may be cited the recommendation of Atropine sulphate in $\frac{1}{100}$-grain doses as a remedy for cerebral congestion, infantile convulsions, delirium, dysphagia, erysipelas, erythema, flushing, gastralgia, headache, laryngitis, mania, photophobia, scarlet fever and tonsillitis; of Bryonia as an effective remedy in bronchitis,

chest pains, dropsy, inflammation (useful in all cases where serous membranes are involved), lumbago, meningitis, peritonitis, pleuropneumonia, rheumatism, synovitis and typhoid fever; and so on through Calcium sulphide, Cannabis indica, Copper arsenite, Gelsemium, Ipecac, Mercury biniodide, Morphine ($\frac{1}{60}$-grain for constipation) and Rhus tox. (apropos of which he says, "During the past ten years its properties have been studied by Philips, of England, and Piffard, of New York, so that it is not a remedy which in any sense belongs to so-called Homœopathic practice").

Strange, indeed, that men, "logical thinkers," capable of writing these things (and such instances may easily be multiplied many times), should be so blind as not to see in their own writings incontrovertible evidence to the efficacy of Homœopathic principles and practice.

A factor of inestimable worth in our argument for the reliability of Homœopathy is the stability of Homœopathic treatment as contrasted with the wild mutability of the methods employed by the "rational" school—ironically so-called. The Homœopathic method of practice, so far as it is built on drugs thoroughly and scientifically proven, is, in the nobler phrase of the Indian Vedas, "built for endlessness." What Belladonna, Aconite, Ignatia, Mercury, have once been proved to accomplish, that they always can be relied upon to accomplish to-day, to-morrow, a hundred years hence. In what fundamental respect does the Homœopathy of to-day differ in its use of drugs from the Homœopathy of Hahnemann's day? In what respect does regular "rational" medicine to-day resemble in treatment employed the regular "rational" medicine of a century ago? To these questions we may add a third and very vital one: Which system of medicine has, so far as clinical evidence can be counted trustworthy, yielded in a century's trial the best results to mankind —the stable system or the unstable? In answering these questions as any honest investigator must answer them, we have a plea for Homœopathy so surely founded, so irresistible in its appeal, as almost of itself to win our case without additional testimony. Homœopathy from its birth has been a living entity; it has never needed to

> "Mount
> On its dead self to higher things,"

still less, as has been the case with the supposable upward progress

of its "rational" rival, to mount on the dead selves of other people, notably its too credulous patients.

In this connection it must be urged, for the reliability of Homœopathy, that it is free, or comparatively so, from that deadly parasite, the commercialism of patent medicine manufacturers and venders. What the appeal of this pestiferous class of tradesmen is, how enormous in bulk, how inevitably far-reaching in influence is the trade they pursue, let our groaning waste-baskets bear witness! Among the "experience" which rational medicine so fondly boasts storing up is evidently to be reckoned the experience acquired at infinite cost to the bodies and the purses of their patients of how worthless are the million or so patent "cure-alls" for the ills of flesh, for which the "testimonials" of physicians are unceasingly sought, and far too frequently given. It is a trap into which the regular school seems never weary of walking; the newest laxative, the newest tonic, the newest febrifuge, the newest sedative, to which unscrupulous commercialism can attach a polyglot name, all find their supporters among the dignified names of men who apparently are driven to experiment with them through poverty of existing resource to meet the conditions which these medicines so blatantly advertise to cure. From such poverty the rich, the complex, the stable, the time-proved materia medica of the Homœopathic school ransoms its fortunate practitioner.

In conclusion let me summon as a witness that most convincing of proofs, the statistical table. Figures are not garrulous; what they say is said concisely and emphatically. I refrain from quoting any of the numerous statistics which may be found generously scattered throughout the TRANSACTIONS of the American Institute of Homœopathy and our periodical literature. With such statistics you all are, or should be, familiar. I desire to present a few figures with which you are not acquainted. Knowing that for several years past Australia has suffered heavily from typhoid fever, and knowing also that the Melbourne Homœopathic Hospital had treated a large number of these cases, I wrote to a friend, Dr. W. K. Bouton, who kindly sent me the fullest compilation accessible. These statistics are found in a brochure on "Typhoid Fever" by Dr. Duncan Turner, an Old-School physician, who, with a candor and generosity which appeals to our appreciation of what is manly, includes returns from the Melbourne Homœopathic Hospital.

I present herewith a summary of these.

Typhoid Fever Statistics from Australia.

Hospitals.	Years.	Cases Treated.	Number of Deaths.	Mortality Percentage.
Melbourne, Homœopathic..	'89 to '94—5	977	68	6.96
" Melbourne.....	'89 to '94—5	1103	215	19.49
" Alfred.....	'89 to '94—5	981	108	11.01
Brisbane.....	'86 to '94—8	1913	128	6.69
Adelaide.....	'89 to '94—6	603	91	15.09
Ballarat.....	'88 to '94—6	424	40	9.43
Bendigo.....	'90 to '94—4	168	23	13.69
Sydney, Prince Alfred.....	'86 to '93—8	1163	189	16.25
" Coast Hosp.....	'86 to '93—8	1642	177	10.78
Total, minus the Homœopathic.....		7997	971	12.14

Encouraging as these figures are, we must not overlook the fact that during the last five years—the period covered by the report from the Melbourne Homœopathic Hospital—the Brisbane Hospital treated 639 cases, with only 33 deaths, a mortality percentage of 5.16. This percentage, besides being vastly superior to that obtained at the other Allopathic hospitals, is also somewhat superior to the results obtained at the Homœopathic Hospital in Melbourne. The reasons for this success are not mentioned in the brochure by Dr. Turner, neither does he comment upon them.

To present statistics from nearer home, I am proud to bring you a report from Massachusetts that is encouraging.

From the annual reports of the five state hospitals for the insane we learn that during the year ending September 30, 1895, there were:

Total Cases Admitted.	Curable Cases Admitted.	Curable Cases Discharged as Recovered.	Per cent. of Recoveries Curable Cases.
Westborough, 254.....	63	48	76
Other Four Hospitals, 1491.....	458	128	28

Commenting on the "The Present Status of Insanity in Massachusetts," Mr. Frank B. Sanborn says, in the April issue of the *American Journal of Insanity*:

"It would thus appear that, while three-fourths of the curable admissions of a single year recovered at Westborough, only between a fourth and a third of similar cases recovered at the other hospitals; also, that, of the whole number at Westborough, about one

in twelve recovered in a year, while elsewhere only one in seventeen and one-third recovered. Moreover, of the cases relapsing after recovery, many more are reported at the other hospitals than at Westborough. These figures will not, perhaps, be accepted as correct, but they point to a favorable condition which does seem to exist at Westborough, and not to the same extent in the other houses. At any rate, they may be taken as correct until corrected from the records."

That this superiority is not confined to one year, the following table demonstrates:

*Admissions of Curable Cases and Number Discharged as Cured During the Last Six Years.**

Hospital.	Admission.	Cured.	Per cent.
Westborough	598	388	64¾
Danvers	549	207	47¾
Northampton	383	122	32
Taunton	686	229	33⅓
Worcester	1049	229	21¾
Omitting Westborough, a total of....	2667	787	29½

A table comparing the number of cases "recovered," "much improved," "improved," etc., may prove of interest:

	Total No. of Cases Including Acute and Chronic, for Year Ending Sept. 30, 1895.		Causes of Acute Curable Insanity Admitted to and Discharged from the Massachusetts Insane Hospitals in Year Ending September 30, 1895.															
Hospital.	Whole No. of cases within the year.	Daily average No. of patients in hospital.	Admitted within the year.	Discharged within the year.	Curable cases admitted during the year.	Per cent. of curable cases admitted.	Discharged as recovered during the year.	Per cent. of curable cases discharged as recovered.	Discharged as much improved.	Per cent. of cases discharged as much impvd.	Discharged as improved.	Per cent. of cases discharged as improved.	Discharged as not improved.	Per cent. of cases discharged as not impvd.	Died.	Per cent. of deaths.
Westborough...	827	564.02	254	260	63	25	48	76	16	25	3	5	3	5	8	12¾
Danvers.....	1278	935.00	372	330	86	23	28	32½	13	15	16	18½	6	7	13	15
Northampton...	705	526.56	201	159	93	46	29	31	15	16	12	13	8	8½	10	10¾
Taunton	1191	817.73	406	345	128	31¼	44	35	9	7	13	10	11	9	10	8
Worcester.....	1426	922.34	512	364	151	29½	27	18	32	21	14	9½	13	9	15	10

* Annual reports covering a larger period were not accessible when this table was compiled.

The following table testifies to the permanency of Homœopathic cures:

Relapsed Cases from Same Hospitals.

Hospital.	Total Admitted Last 9 Years.	Relapsed Cases Admitted Last 9 Years.	Relapsed Cases Remaining Sept. 30, 1895.	Per cent. of Relapsed Cases to Admissions.
Westborough	2793	130	29	4¾
Danvers	2815	176	29	6¼
Northampton	1181	125	28	10½
Taunton	2329	192	63	8¼
Worcester	3694	279	44	7½
Omitting Westborough, Total =	10,019	772	164	7 7/10

It seems as if the most sceptical mind must be impressed, if not convinced, by the testimony of the clinical efficacy, the superiority, and the reliability of the Law of Similars so eloquently and simply stated by these statistics. Further testimony and proof might be submitted, but having exceeded my time-limit, I rest my case on that already offered.

Members of the American Institute of Homœopathy, a hundred years of nobly successful experiment, against as heavy odds as ever opposed themselves to truth since the days of the martyrs—a century in which Homœopathy has won countless followers to its banners, and countless foes to the adoption of its practices, if not to the toleration of its name; triumphs honestly won; truths incontestably demonstrated; is this not a history of which we may be proud? As the Christian in his sacramental hour consecrates himself anew to vows of long ago; as the soldier, standing at salute before his flag, pledges anew to that flag his loyalty and his service; so we to-day, looking backward and looking forward, pledge to Homœopathy new vows of faith and effort. Since looking backward we read so noble a story of accomplishment, how can we, looking forward, but read a shining prophecy of yet nobler things to be?

REPORT

OF THE

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THE MATERIA MEDICA CONFERENCE.

FIRST SESSION.

On Tuesday, June 16, 1896, at three o'clock P.M. the Materia Medica Conference met in the Turkish room of the Hotel Cadillac, with Dr. T. F. Allen in the chair, who delivered the following address:

The Committee on a Materia Medica Conference recognizes the fact, so forcibly expressed last year by the Committee on "The Centennial of Homœopathy," that works on materia medica hitherto published fail to satisfy the requirements of the practitioners of Homœopathy, and have issued the call for this conference in accordance with the instructions of the American Institute of Homœopathy.

Your committee have held several meetings, and have endeavored to prepare for a full and complete consideration of all the questions and fundamental principles involved in the construction of a complete and reliable materia medica, upon which all scientific therapeutics shall rest. The very first question involved is the purpose of this materia medica; for what sort of therapeutics is its use intended? The answer to this is absolutely essential before taking another step. It is well known that the practice of Homœopathic therapeutics is fraught with difficulties and discouragements, is too uncertain for a scientific *positive* method, which Homœopathy is claimed to be, and that some, at least, of these obstacles are due to the method of construction, or to the materials used in constructing, or to the difficulties in applying to therapeutics of our materia medica. Some, *many*, you will be surprised to know how many, have become sceptical even as to the truth of the law of similars, and it is therefore incumbent upon us to give full expression to the sceptics and dissenters within our midst as to the law, *similia similibus curentur;* we feel that in beginning a new century of Homœopathy we should either strengthen and broaden the old foundations, or find any weak spots in it and build it anew. The first consideration then is: Are we satisfied with Homœopathy as the basis of our new therapeutics, and are we content to build our future therapeutic superstructure on that alone?

Incidentally, we must also decide, but not this year, as to whether we require any other therapeutic methods in the *cure or treatment* of the sick, and thus add to our building the materials needed for such methods. Having examined our foundations, strengthened, re-

paired or extended them, our next business will be to select our materials. A subject of vast proportions here confronts us, upon which we shall find great diversity of opinions; we shall examine the materials used by our first architect, Hahnemann, and see how they have stood the test of time, how they have weathered the storms of criticism and opposition. Can we repair the old building, or shall we tear it down and build again with new designs? Shall we quarry or hew new material? These are fundamental questions which must be discussed and settled before anything can be done. You will be interested in the diverse opinions of experts who have been called in to consider the subject and assist us in formulating our opinions.

Dropping now our simile, I call your attention to the third question which will be considered at this conference, and upon the decision of which will depend the construction of a materia medica from its very first sentence, namely: *Do we recognize the totality of the symptoms as the essential disease to be treated and cured?* Upon the answer to this question will depend the construction of a *symptomatology* or of a *pharmacodynamic pathology*. Some feel that this point lies at the very root, is, indeed, the very essence of Homœopathy, and that its determination is absolutely essential. This question has divided the school into two camps, the Hahnemannians, formerly so called, before the *key-note craze* became so obtrusive, and the liberal or self-styled advanced school. Doubtless, the truth does not lie at either extreme, but the question must come to the surface, and must be discussed with perfect fairness and without bitterness. No hostility can be permitted to intrude at these debates, no unworthy motives can be imputed to any one, and perfect charity toward all will be maintained. The feast is spread before you; it may be that the discussions and conclusions will lead to some definite result; but beyond all, it must not be forgotten that very few appreciate the resources already in our treasury (more than double what they were a hundred years ago), or know how to use them. While the reconstruction of our *Materia Medica* is recognized as most desirable, and indeed needful, in order to begin a new era with a work that will need, in the future, no tearing down, but only continued and constant repair, addition and decoration, we must remember that new books will not take the place of a lack of knowledge of the old nor of a lack of skill in applying that knowledge.

The Chairman then called upon Dr. Conrad Wesselhoeft, of Boston, Essayist for this session, to read his address on the question:

"Has the Law of Similars ever been Unequivocally Demonstrated by the Deductions from General Practice, and Do We not Require its More Formal Proof by Inductive Experimental Research?"

The Principles Underlying the Solution of Questions of Science, with Special Reference to Hahnemann's Law of Similars.

By Conrad Wesselhoeft, M.D., of Boston, Mass.

The "Committee on Materia Medica Conference" having proposed a list of questions, a careful consideration of the subject on my part resulted in the proposition of another question, which, it appeared to me, should take precedence of the others. In my reply of the 30th of November, 1895, to the Secretary of the Committee, this question was stated by me in the following form:

Has the "Law of Similars" ever been Unequivocally Demonstrated by Deductions from General Practice, and Do We not Require its More Formal Proof by Inductive Experimental Research?

In the course of correspondence with the committee through its secretary, Dr. W. A. Dewey, the consideration of this question was allotted to me. In proposing it I had hoped to see another seize upon the opportunity with avidity, and to grapple more ably with the matter than its well-meaning but rash propounder. In this I was sadly mistaken, and finding myself in the lurch, as usual, I reluctantly assume the task of getting the chestnuts out of the fire, and so will plunge at once into the middle of things.

In order to proceed most methodically, it will be best to discuss the second part of the question first: "Do we not require the more formal proof of 'the Law of Similars' by inductive experimental research?"

That I may approach this subject properly, it will be well to do so from all sides, beginning as far back as possible, and to try to discover as far as I can what has been done toward its demonstration, outside of clinical experience. In this way it will soon become evident that actual inductive experimental research has been very scanty, and that by far the greater proportion of the support of our guiding maxim was drawn from clinical observation as found in the literature of the time of Hahnemann. This, for the sake of convenience, I will include in the discussion of the subject of ex-

perimental research, as far as Hahnemann was concerned. Another part shall be devoted to the consideration of the deductions from general practice by other observers during and after Hahnemann's time.

In following this inquiry, it might not be altogether useless to search deeply in literature for evidences of experiment in search of a law of cure, but it will be unnecessary for our purpose; for what we need has been long and well known, and it will be difficult, if not impossible, to find more and better evidence than is to be found in Hahnemann's first Cinchona-bark test, which is as follows:

"The following is to be considered, substances which excite a kind of fever (very strong coffee, pepper, arnica, Ignatius bean, arsenic) obliterate the type of intermittent fever. For the purpose of experiment, I took twice a day, for several days, ½-ounce (4 quentchen, the q. = 1 drachm) of good Peruvian bark; my feet, fingertips, etc., first became cold; then my heart began to throb, my pulse became hard and rapid; an intolerable anxiousness, a trembling (but without rigor), a lassitude was felt through every limb; then throbbing in the head, redness of the cheeks, thirst, in short, all the symptoms of intermittent fever peculiar to me, appeared successively, but without actual rigor. Briefly stated: also the peculiarly characteristic and common symptoms peculiar to me of intermittent fever, the dulness of the senses, the kind of stiffness in all my joints, but particularly the numb, disagreeable sensation which seems to be seated in the periosteum covering all the bones of the entire body—all these appeared. The paroxysm always lasted two or three hours, and reappeared when I repeated the dose, but at no other time. I omitted it and was well."*

This, so far as known to me, is *the only* experiment Hahnemann ever made in order to establish his system of cure, unless we consider his numerous other provings in the light of experimental tests. This view seems to me untenable, because Hahnemann considered the proof of the law furnished by his personal test of Peruvian bark as sufficient; so that his other provings were made chiefly for the purpose of discovering the "dynamic" effects of drugs, irrespective of the law which, in the opinion of Hahnemann, already rested on a firm basis.

Still, it is not difficult to perceive that the more extended proving of Peruvian bark, as well as of other medicines, gave evidence to

* Hahnemann's translation of Cullen's *Mat. Med.* Leipsig: Schweikert, 1790, vol. ii., foot-note, p. 109.

Hahnemann that these cured the diseases to which they were similar; for the effects of some were previously known, and comparison was thus rendered possible.

In corroboration of this, I quote the words of Hahnemann: "I found, as in the case of other medicines, and especially in that of Peruvian bark, that this, as surely as it is very curative in some cases of disease, so surely is it capable of producing in the healthy body the gravest symptoms of peculiar kind, often of great intensity and of long duration." (*Pure Mat. Med.*, vol. iii., p. 99, Germ. ed., 1825.)

It is a noteworthy circumstance that, instead of pursuing his inductive method further, for the purpose of still more confirming his newly-discovered law of cure, Hahnemann preferred to resort to the medical literature of his time for the discovery of other evidence, and it may seem strange to us that he chose this, instead of the testimony of his own senses. It will be interesting and instructive briefly to examine some of this evidence, most of which he has recorded in the *Organon*.*

Hahnemann's quotations of clinical evidence may be divided into two classes; the first relating to the effect of *dissimilar diseases*, tending to prove that these may suspend, but do not cure each other (Sec. 38); also that dissimilar effects of medicine fail to cure (Sec. 70). His observations on this subject are so well known that extensive quotations are not demanded, yet his position regarding the matter may be seen in the following passages: "Two *dissimilar* diseases existing in the human body may be of equal intensity; or in case the *older one* of the two proves to be of greater *intensity*, then the new disease is kept away, and excluded from the body." This "pathological law" is sustained by numerous observers quoted in the text. Thus, he quotes from *Larry* (*Description de l'Egypte*, Tom. I.) that the Levantine plague does not visit localities where scurvy prevails; neither does it attack persons suffering from herpes. According to *Jenner*, vaccination proves abortive in persons suffering from rickets. *Von Hildebrand* says that patients in the ulcerative stage of consumption are not infected by fevers of a mild epidemic form.

In Sec. 38 Hahnemann demonstrates "that, *in case the new dissimilar disease is of greater intensity*, the first disease affecting the

* For a more detailed history of development of drug-testing, see *Lectures on Homœopathy*, by R. E. Dudgeon, M.D.; *History of Homœopathy*, by Dr. Kleinert; also *History of Medicine*, by Dr. B. Hirschel.

patient, being the weaker, will be postponed and suspended by the superadded intenser malady, until the latter has terminated its course or has been cured." In support of this law, Hahnemann quotes numerous authors, of whom a few examples may suffice. "Thus *Tulpius* (*Obs.*, Lib. I., 8) informs us that two children, affected by a species of epilepsy, were at once free from that disease when they were attacked by *tinea capitis;* but as soon as the eruption disappeared from the head, the epilepsy returned in the same manner as before." It was observed by *Schoepf* (*Hufeland's Journal*, xv., ii.), that itch disappeared when scurvy attacked the patient; but came to light again after the scurvy was cured. In other instances measles were seen to arrest the inflammation caused by the inoculation of smallpox virus; in other cases the measles actually prevented the eruption of smallpox, until the former had completed their course, when the variola reappeared, etc.

In various sections, *e.g.*, in 50 and 52, etc., Hahnemann demonstrates that though diseases may suspend each other, they are not available as therapeutic measures, on account of their uncertainty, and consequent danger. From this it follows that only well-tested medicines are to be used for curative purposes, according to the law of similars, which also finds its analogous processes in pathological and clinical reports. Thus in Sec. 43 Hahnemann says: "But the result is far different when two similar diseases meet in the organism; that is when a stronger and similar disease is added to the one already present." In the two following sections (44 and 45) it is asserted "that two diseases, *similar* in character, cannot, like dissimilar diseases, *repel* or suspend each other . . . on the contrary, two diseases, though different in kind, but very similar in regard to their manifestation of suffering and symptoms, will always extinguish each other whenever they meet in the organism."

In support of this broad statement, Hahnemann selects his examples from a limited class of diseases which, arising from a fixed miasm, are always uniform and known by a definite name. Prominent among them is variola, dreaded on account of its violent symptoms, and known to have obliterated and cured numerous evils by means of the similitude of its symptoms; and it is a remarkable fact that inoculation with smallpox completely cured a protracted case of ophthalmia, as reported by *Dezoteux* (*Traité de l'inoculation*, p. 189), and another case mentioned by *Leroy* (*Heilkunde fuer Mutte*, p. 384), which was also permanently cured.

Quoting from various writers, Hahnemann adduces an extensive

list of cases cured by the intervention of smallpox. Thus, tinea capitis, deafness, swelling of the testicle, dysentery—all of which smallpox may produce and cure by virtue of its similitude. The same observations have been made in regard to cowpox which, by virtue of the similitude of its secondary miasm, is capable of producing a certain kind of erythema, and cures similar and often troublesome eruptions of children, after the vaccination has properly taken effect. The same was observed in a case of a swollen and half-paralyzed arm; also in those of intermittent fever in two persons, as *Hardedge, Jr.*, reports (*Hufeland's Journal*, xxiii.), thereby confirming the observation of *J. Hunter* (*On Venereal Disease*, p. 4), that two fevers (being similar) could not exist at one time in the body (*Organon*, Sec. 46).

In the example above quoted, Hahnemann finds a strong support of his discovery of a law of cure, first by demonstrating that *dissimilar diseases* have not that power, and hence, continues Hahnemann (Sec. 47), "the preceding examples contain the most distinct and convincing argument in regard to the kind of artificial morbific potency (medicine) to be chosen by the physician in order to accomplish rapid and permanent cures, according to the process observed in the course of nature, *i.e.*, from a morbific potency which is similar in symptoms and somewhat superior in strength" (Sec. 48).

Such examples are not without interest, but of very little positive value, unless supported by experimental tests of high order. The methods of such tests are now being developed at the hands of the ablest observers of our time, and it cannot escape even a superficial observer that there exists a remarkable analogy between the clinical results collected by Hahnemann and those obtained from the toxines of to-day.

But the momentous question arises as to whether Hahnemann really did all that was necessary to establish and confirm a positively defined law of cure, and whether we are justified in resting upon that which one observer, however distinguished, was able to accomplish a century ago. This question is not approached by the bacteriological studies of to-day. These progress in another direction, which may in the end assist in demonstrating the existence of the law of similars; but if so, it will be incidental, and aside from the purpose of bacteriological research.

It was the prime object and purpose of Hahnemann to discover facts in support of his law, for which, so far as my knowledge goes, he made only one experiment; and it is to be regretted that, not-

withstanding the undeveloped methods and means of his time, a keen observer and generalizer like Hahnemann did not think it worth while to pursue the subject further by direct experiment. This includes frequent repetition, comparison of numerous results, controlled by counter-tests; for these constitute the most important conditions for the elevation of any hypothesis to the value of the law.

Among Hahnemann's subsequent provings there were many drugs, the effects of which in disease were known to be curative, such as Aconite, Belladonna, Arsenic, etc. Inasmuch as their curative effects were demonstrated to be due to their similitude of effect, as disclosed by provings, these might also be considered as inductive experiments in support of the law of cure. But there is much that tends to show that he did *not* make those provings for that purpose, regarding the law sufficiently substantiated by his single China test, and by his clinical quotations from the writers named above.

In the course of twenty years after the promulgation of *similia similibus curentur* this gave rise to a voluminous Homœopathic literature. This included among its publications chiefly clinical reports of cured cases. All those published in Germany, and those translated from foreign languages between 1822 and 1858 were published by *Dr. Th. J. Reuckert* in five volumes, including a supplementary volume by Dr. F. G. Oehme, now of Roseburg, Oregon. This large clinical material has grown to immense proportions in thirty-seven years, but it has not been collected and arranged, as was done by that most industrious, learned and reliable writer. We point to these achievements with pride, and say to the world: Behold what Homœopathy has done; what greater proof of its success can be demanded?

And yet a perfectly unbiased observer, eager to see only the actual causes and relations of things, with the ultimate purpose of placing Homœopathy on a sound unimpeachable basis—such an observer cannot fail to see that there is wanting a great and essential element, the *absence* of which invalidates to a *large* degree, if not wholly, our store of clinical experience. This, to say it plainly, is only of partial and indirect value, in the absence of any knowledge of the whole number of cases treated, or even of the number of the cases of a certain class.

In accordance with the commonest principles of statistics, both factors or classes, the negative as well as the positive, must be known, if any valid and consistent proof of our method is to be

furnished to the world. What would we think of a man arising in this assembly and stating that he had in thirty years of practice *lost* only five cases of pneumonia? In this instance the inference would be that he saved 100 per cent. of his cases. But precisely the inverse inference would be justifiable if he had asserted to have *saved* only five cases of pneumonia. Just so with regard to our or any other method of practice which publishes cures almost exclusively. These are received with marked approbation; but supposing the opposite were the case, and we heard only of failures, what then? This course would be quite as good, or quite as bad as the first; for while the first might meet with our applause, and the second with the silence of our disapproval, both instances, being equally unqualified, would be equally untrustworthy and of doubtful value. Such statements by one or by many individuals would undoubtedly be at once met by the question as to the *whole number* of cases treated; by withholding this knowledge *we have no very firm ground to stand on.*

It is true that we have some very fragmentary statistics, to which I have referred elsewhere (*Hahnemannian Monthly*, October, 1895), but plead that we must have more, and I hope to show presently how to obtain them. Hence, as far as I have proceeded in this very condensed review of the subject, the question propounded in the beginning must be answered in the negative, to the effect that the law of similars has not been unequivocally demonstrated, and that we require more formal proof by inductive experimental research to establish it more firmly than has been the case hitherto.

The medical world at large has not accepted the law of similars. The negations of opponents must be met, and the onus of furnishing evidence rests upon us. Without in the least underrating Homœopathic practice with the means at our command, I would still urge that standing still without improving these means is equivalent to going backwards. Have we not stood still too long, and have we not too long been satisfied with the state of things as they have been for a century? With Hahnemann, the healing art took a long step in advance a century ago; if it will take another such step in the next hundred years, the world will have to rest satisfied for still another century to come.

This view would be purposeless if left unsupported by a plan of work by which to arrive at some tangible results, even if negative and uncertain. For more than ten years I have, from time to time,

published suggestions tending towards an understanding of the subject in the hope of stimulating some workers placed beyond the necessity of spending their time in the ordinary drudgery of professional life, and so far not entirely without success. Inquiries concerning my plans of work I have answered* in the following terms, setting forth our need of experimental investigations:

The human organism was selected by Hahnemann as the subject of experiment, but it unfortunately proves to be the most difficult and uncertain subject for that purpose. The ability to express sensations by language more or less eloquent is the very element leading to misconception and misconstruction. Instead of being the first, man should be the *last* subject of experiment in the final control-test, and be himself controlled. Effects obtained from animals under the influence of drugs, and their comparison with animals in health, would constitute fewer but more positive data in the form of symptoms, and these experiments should serve as control-tests for later tests made upon the human subject.

The subjects hitherto chosen by experimenters were taken from the warm-blooded animals, such as dogs, cats and guinea-pigs; but it is a matter of surprise that the omnivorous pig, being both prolific and obtainable, is not usually mentioned as a subject of experiment. Next to this, there is many a reason for the supposition that the lower orders, such as mollusks, articulates and vertebrates, chiefly frogs, but also insects and fishes, should be of service, being both readily obtainable, easily kept and observed in their natural element or conditions. Evidence is not wanting that these are quite susceptible of toxic effects, which are uniform and simple as compared with those obtained upon higher organisms; besides, they are more easily exposed to toxic influences of substances introduced into the elements inhabited, or food needed by such animals.

It is often said by opponents of animal experiments that these would furnish no reliable data applicable to man, but this is merely a general supposition, unsupported by facts and by the experience of expert experimenters.†

As this short outline is not intended as a description of methods, I shall confine myself strictly to the statement of principles in

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* *Hahnemannian Monthly*, June, 1887, "Aphorisms on the Methods of Proving," etc.

† For information on this subject, see *Text-Book of Experimental Toxicology*, by Dr. L. Hermann, Professor of Physiology at the University of Zurich.

answer to my original question. In order to approach this in the most direct manner, let me say that while it is sufficiently well known that drugs may produce morbid (pathological) conditions, that is, act as poisons, the amount of positive evidence proving the curative power of drugs is very small, barely deserving the name of a general deduction from clinical results, in which the whole number treated and the negative element of failures have never been duly considered.

It is, therefore, necessary that the curative power of drugs should be as positively demonstrated as their power to produce morbid, i.e., *pathological conditions, and, first of all, it should be our object to determine experimentally whether it is possible to arrest or cure artificial disease produced by drugs (and other means) by the use of drugs as medicines. In other words, though we may know something concerning the production of artificial disease as practiced in our provings, we have yet much to learn concerning it; but our chief aim should be to learn how to cure it artificially; that is, how to cause an animal to become diseased by means of drugs, and then how to cure it again of this drug-disease.*

This line of inductive research is to be distinguished from that followed by bacteriologists. This deals with the (toxine) effects of bacteria, while the course of procedure required by our therapy deals exclusively with drugs, and, therefore, will require separate and special methods of experiment. Again, while the bacteriologist pursues an indirect course in preparing his cultures, and resorts to the indirect process of producing disease through the medium of a living organism, generating a poison, the experimenter with drugs derives his results *directly* from these by producing, and ultimately curing, artificial drug disease.

The bacteriologist has the advantage in so far as he has succeeded in producing and curing artificial disease *indirectly;* may we equal him in this respect by *direct* drug experiments.

In my article above quoted, a general outline has been given regarding the experimental course to be pursued; but to attempt to make special rules to be followed would be quite useless, because a person even slightly acquainted with experimental studies in a new field will know of the difficulties sure to arise. They will be like those met by an explorer of a totally unknown region of the world. All he knows is the destination he hopes to reach, perhaps the north pole, or the other side of Africa; but of the route he may have to take he knows nothing, nor where it will lead him. What

he desires to find or to prove is one thing; what he actually will find may be quite a different and wholly unexpected experience.

An explorer, whether of this Institute, or of the world in general, will have to be one of genius, like a Newton, a Hahnemann, a Pasteur, a Koch; his must be in youthful vigor, independent in regard to means and to time, while we who have to toil wearily at our calling, must watch and wait, and learn.

There is one more important side of the topic to be considered, namely, that relating to deductions from general practice. These, though first in the question as formulated, I must briefly dwell upon last. In order to decide any scientific question, either by direct experiment, or by deduction from general observation, in either case, the first guiding principle is to collect numerous cases or instances, to classify them according to their negative or positive value, and having done this, the second step would be to determine which class predominates in the determination of the question to be solved. This predominance should be decidedly convincing as to numbers, and predominant instances of success or failure should also bear very satisfactory internal evidence of having been fairly arrived at.

Applying these maxims to the determination of clinical results as due or not due to the use of medicine, the material to be drawn upon for a decision is very defective, if not wanting altogether. This state of things exists chiefly for the reason that there are no available records of diseases or of cases of sickness treated without medicine or without interference of some kind, intended to influence the course of the disease. The so-called expectant examples of *Diell*, though voluminous, were not strictly expectant enough. On the other hand, the cases treated with medicines, and other measures intended to influence the course of the disease, in and out of hospitals, is overwhelmingly great. This applies as well to our Homœopathic school as I have previously shown, where the positive and desirable results have been and are still collected and published, while we remain in ignorance of the main elements of knowledge on the subject, namely the whole number of cases treated and the whole number of negative results, including deaths or failures to cure.

As in the discussion of the subject of direct inductive research, I shall have time only to state the lines upon which the question of clinical testimony and evidence hinges. Stated in its most concise form, it is this: *In order to prove that a case has been cured by medicine,*

it is first to be shown conclusively that the case could not have recovered or have been shortened, without the use of medicine. Upon the presence or absence of such knowledge rests the whole question of superiority of therapeutic methods within schools; upon it depends the solution of the useless and puerile feud between Allopathy and Homœopathy, regular and irregular practice. Instead of endeavoring to decide a purely scientific question on its merits, both sides have preferred creeds, dogmas, and ethical questions to quarrel about, and to say that Homœopaths were the only ones to cling to a creed, is one of the absurdities growing out of the helplessness of densest ignorance.

I reproach neither men, time, nor circumstances in stating the case as I have done, but I feel and share the disappointment at the want of harmony among doctors in general. Let others quarrel and ostracize as they please; but let us, at least, take a step toward a better state of things by insisting on correct scientific data. Whether Homœopathy is right or wrong, it will stand or fall, *not* as a creed, but as a question of knowledge, as a scientific problem, and must be subjected to the crucial test of modern times. I assume that it is willing to abide by such tests. If other antagonistic schools refuse to submit to them, the fault will be theirs.

When we had no hospitals, an essential part of the required tests could not be applied; but now that we have them in respectable numbers, these hospitals would miss one of the most important reasons for their existence if, for example, they failed to institute means for solving the questions before us. Therefore let it be resolved or ordered by this Institute, for instance, that all, or a certain class of acute cases, say pneumonia or typhoids in these hospitals, should be observed for several years without any medicine whatever. Then, after having collected a fair number of hundreds of such cases, let the same class and number be treated medicinally, or simply compared with those which had been treated with medicines hitherto. This course, if pursued in the hospitals of both schools, would furnish us with the information we have never possessed. Its value would be inestimable. It would teach us the difference between actual expectant treatment under modern nursing and the medicinal treatment of the Old School. It is impossible to venture an opinion as to how this would appear as compared with the observations made in hospitals of our school, but it is time that such results were obtained.

Some objections might arise against this course, for fear of endangering the patient, and many might not have the courage to try

it, so that it will soon be discovered that it requires more courage *not* to dose than to give medicine. Why? Because it has become a medical habit to give every patient a dose of some kind, be it large or infinitesimal, Allopathic or Homœopathic. But when calmly and dispassionately considered, the wonder is that physicians have the courage to give medicine at all. By whom and how is it guaranteed that a certain dose of medicine, great or infinitesimal, will cure, or if not, that it is just the right one and safe one? As medical science stands to-day, it is immeasurably overbalanced by what we do not know, and any method which is on the side of absolute safety is the best. We may not cure, but we were guilty of malpractice if the least harm resulted from prescribing medicine, while no harm can come from omitting it; not counting the few well-known exceptions. Such tests, and such only, would allay contention; by such tests the "Schools," or rather methods of practice, stand or fall. Otherwise partisanship, exclusion, and intrigue will go on forever.

It is to the hospitals that we must look for aid on the one hand, and to the physiological laboratory on the other, to test by direct experiment the law of similars. Private practice is useless in this respect, unless poor hard-worked doctors find time to collate and compare their results. This cannot be looked for; but henceforth the superintendents, medical staffs, and internes of our hospitals should be instructed how to keep such records, and to collate them intelligently. But here, also, time and strength fail, for there are no idle persons in our hospitals; and it is earnestly to be hoped that special offices be created for this very desirable end.

Let me dwell on the subject but a little longer, for in this connection there are other secondary, though no less important, questions to be determined. We have schools within schools who have been fighting each other valiantly for a century with empty words. I mean in regard to the dose. This question can in time be determined by the same means, and incidentally, in the course of the same process, the main question, Does medicine cure, and if so, how? Let it go forth from this body that statistical evidence of a certain kind is wanted. Let the American Institute of Homœopathy indicate its wish and purpose by a resolution directed to all hospitals, not only for our school, but of all schools. Nothing will tend so well to put an end to antagonistic sects as the *arbitrament of exact experiment*, in order that our practice may rest on the knowledge of the physician, and *not* on his *belief*.

Finally, to those who think that they find in these arguments the

seeds of heresy, or a desire to belittle the work of Homœopathy; and to those who, by following closely the footsteps of Hahnemann, think that their practice is perfect; and, finally, to those who point to my words as a proof of incapacity or want of success, I have only to say, show me by proof, not by boastful assertion, how much better you can do, or be silent. The same I have to say to the opponents of Homœopathy. Until more work is done on both sides, the game is a drawn one between our school and its opponents, and I may say, between contestants within our own walls.

The differences are reconcilable only in the way I have endeavored to indicate; at any rate, never by assertions of superiority and partisan segregation.

Discussion.

Martin Deschere, M.D., New York, N. Y.: The very thorough dissertation on the subject of the demonstration of the law of similars, presented in a scholarly manner by Dr. Wesselhoeft, is a healthful stimulus to the oft-wavering scientific spirit of our school.

Though the doctor rejects clinical evidence, I think that a law especially adapted for clinical use may be fitly judged by a century's clinical experience as to its correctness.

Hahnemann's personal test of Cinchona bark, which Dr. Wesselhoeft contends to be the only experiment ever made for the scientific proof of the law, was but like Newton's fallen apple, that gave the impetus to the thought, followed by researches in literature, which surprised the discoverer by the wealth of coincidents of cures wrought by drugs that were capable of producing similar states in the healthy which they cured in the sick, just as he had found to be the fact with Cinchona. That was in 1790.

Hahnemann's actual experiments began after that, but he proceeded in a reverse order. He proved a number of drugs upon the healthy human organism, and having ascertained their physiological action, used them successfully in diseases presenting similar conditions.

After six years of corroborating experiments, for experiments they were, Hahnemann had become thoroughly convinced of the correctness of his discovery, and published the historical essay in *Hufeland's Journal*, in which he for the first time hints at the applicability of the law of similars in drug-therapeutics. In this essay he also gives excellent reason for the selection of the human organism in preference to that of the animal for the test of drugs.

But for the sake of argument I will ignore clinical evidence, and also admit that Hahnemann has done nothing to establish a scientific foundation for his therapeutic law. Let us suppose that pharmacological studies are essential for the unequivocal proof of the law of similars.

An institution for that purpose must be well equipped with the

most improved modern appliances, and be under the guidance of experts. To make the experiments instructive they must be conducted with extreme care and often with very complicated apparatus.

The Pharmacological Institute in Dorpat, Russia, under the direction of Prof. Kobert, publishes periodically the results obtained there by many experimenters. The *Archiv für experimentelle Pathologie und Pharmacologie*, published by various scientists under the editorship of Profs. Naunyn and Schmiedeberg, of Strassburg, also contains much instructive material. These periodicals are of great interest to the student of materia medica, and it frequently needs but a change of title to the published article, which might properly read: "Experimental Proof of the Truth of the Law, Similia Similibus Curentur."

The time allotted to discussions does not permit me to enter at length upon the results of these experiments, but I consider it my duty to mention just one out of many. Dr. Alexander Lewin publishes in the last-mentioned periodical, vol. xxvii., p. 226 (1890, exactly 100 years after Hahnemann's first experiment), "A Contribution to the Pharmacology of the Camphor-Group," from which I translate the following:

"It is most surprising that an action of Camphor upon the heart of warm-blooded animals has not yet been demonstrated. Nevertheless, clinical experience regarding the use of Camphor in collapse speaks loudly for the existence of such action. I therefore decided to study this point, and found after experimenting that even minute quantities of Camphor not only markedly diminished the *frequency* of the pulse, but also *the absolute power of the heart's muscle* and the *quality* of the pulse." (Lewin describes the methods of his experiments at length, which are of the character usually employed in physiological laboratories.)

Lewin continues: "This decrease in the heart's action is not dependent on an irritation of the inhibitory centres of the heart, for the addition of a few milligrammes of Atropine to the Camphor-poisoned blood does not change the result in the least. This direct action of Camphor upon the muscle appears therefore to consist in the fact that the elasticity of the muscle-substance becomes markedly changed."

"Since Wiedemann holds that the *increase* of blood-pressure through the action of Camphor is caused by an irritation of the vaso-motor centres of the medulla, I was naturally very anxious to know whether Camphor would not be capable of *stimulating* the blood-pressure without the intervention of the vaso-motor centres."

"For this purpose experiments were made with rabbits and dogs that had been *deeply chloralized*. After cutting both vagi chloral-hydrate was gradually injected into the vein *until the blood-pressure had been permanently reduced to a minimum*. After *this decrease had become stationary* for a while *Camphor was injected*, either into the stomach in the form of an emulsion with gum arabic or with olive oil or into the vein in a ½ per cent. watery solution to which 10 to 20 per cent. of alcohol had been added. Now if it is possible to gain a strong

increase of blood-pressure through the action of Camphor in such animals *in whom the circulatory system is absolutely depressed*, it would be a convincing proof for the directly *exciting* action of Camphor upon the heart. And in fact these experiments show that *a little while after* the introduction of Camphor *quite an appreciable increase of blood-pressure takes place*, which often rises even to *double the original strength*.

"Besides this increase in the blood-pressure, Camphor also changes the character of the pulse-curve, which becomes markedly higher and sharper." So far Lewin.

It is hardly necessary to draw for you from this experiment the only rational deduction possible for a therapeutic law. "*Similia Similibus Curentur*" stands boldly written, in fiery letters, as the result of this crucial test.

Camphor applied to the muscle of the *normal heart acts deeply depressing*. Camphor injected into the circulation which has been *artificially depressed* by Chloral hydrate proves *highly stimulating*, raising the heart's action, sometimes to double its normal strength!

Experiments with like results are constantly made by physiologists, with all possible drugs, many of which are in daily use by the Homœopathic profession, and they show their unswerving obedience to the law of similars with almost mathematical precision.

The century devoted to the test of Hahnemann's discovery has not passed in vain. The Homœopath, following the rules of the *Organon*, applying his drugs, which were tested upon the healthy organism, in disease, according to the law of similars, has verified the results of these provings time and again, and consequently, with them, the correctness of that law.

Further experimental research is always in order, and I predict to every experiment intended to that end the same convincing results that I have quoted with reference to Camphor, proclaiming to all who are willing to learn the truth of *Similia Similibus Curentur*.

CHAS. S. MACK, M.D., Chicago, Ill.: I feel confident that Dr. Wesselhoeft is right in thinking that the law of similars has never been unequivocally demonstrated in practice. Let us consider what he says upon the rest of the question proposed by him, viz.: "Do we not require its more formal proof by inductive experimental research?" Dr. Wesselhoeft thinks that we do require such proof—proof which is purely statistical. I shall presently express a doubt whether the truth of Homœopathy is capable of any conclusive demonstration based upon inductive methods only, but shall first consider the two methods Dr. Wesselhoeft suggests for procuring statistics. He would have us produce artificial disease, by drugs (and other means), in animals, and then upon some of them try one method of treatment—upon others, other methods—and upon some no treatment at all. He would hope that from large numbers of such experiments there would be obtained statistics of value in determining the truth regarding *similia's* claim. It seems

to me that such experiments might help us in solving the question whether similars cure.

Toward the other method by which Dr. Wesselhoeft would procure statistical evidence as to the truth or falsity of Homœopathy, my attitude would be one of opposition unqualified and, I believe, unchangeable. The proposition that "all, or a certain class of acute cases, say pneumonia or typhoids in . . . . hospitals, should be observed for several years without any medicine whatever" is, in my opinion, not to be entertained for a single moment. I could quote a physician's opinion that it is inhuman not to try as best we can to aid the sick, and that even when we give *placebos* our sympathy and presence may be helpful; but that our presence as mere statisticians at the bedside may be harmful.*

To the point are the following words, which open Hahnemann's *Organon*, as translated by Dr. Wesselhoeft: "The physician's highest and *only* calling is to restore health to the sick, which is called Healing." To incidentally learn what we can in practice is perfectly legitimate, but in dealing with a given patient, our main object should always be to help him—not to find out how to help somebody else. I believe, furthermore, that all who looked for conclusive or convincing results from such a hospital evperiment as Dr. Wesselhoeft suggests would be entirely disappointed. I suspect that the question regarding the truth of Homœopathy is among many questions not capable of any conclusive demonstration based upon inductive methods only. There are many questions which we decide without reference to statistics. We insist, for instance, upon liberty, not because statistics prove that liberty is a good thing, but simply because we *will* be free. One may oppose slavery

* I allude to the following from *The Human Body and its Connection with Man*, by J. J. G. Wilkinson, 1851: "It is a mistake to think that there is such a thing as the natural history of disease; it has none but a human history—either benignant or terrible. Man, as he is stretched on his pallet, is still both a soul and a body. . . . . If you are there to heal him, he takes good out of your frame, sympathy and skill, even though you pour bad out of your bottle; he feels the warmth of a brother, present as the envoy of one of the arts of heaven. And if you give *placebos*, you are still acting upon him by the inevitable medication of your person. But if he finds you at his bedside, to watch him for cold experiment's sake, that his life, death, or throes may figure in your statistics, do not suppose that you are innocuous, for you are a potent poisonous drug, calling forth sorrow, despair, fear, and other destroyers, and aggravating the sensibilities of his organs. The best feeling that you can cause under these circumstances is indignation, which, as it rouses the life, may be remedial in your teeth. But there is an absurdity involved in the question, What would be the course of disease if left to itself?—because it never can be left to itself without a breach of manhood; and even if it occurred on a desert island, the mind of the sufferer would play an important part in determining the illness towards either death or recovery. The brutes know better than to resign themselves to doing nothing under natural afflictions; they lick their sores, and seek their herbs; and the domestic animals bring their sorrows of this kind to man, and assume a kind of patience under the treatment that he enjoins. The record of cases requiring care, and yet to which no care was given, would constitute, so far as it could exist, the unnatural and inhuman history of disease."

or favor free trade on grounds not statistical. How to deal with criminals is one of the questions of the day, and much concern is expressed that present methods be bettered; but no one asks for purely statistical arguments in favor of this method or of that. We cannot divide the country into three equal parts and agree that in regard to some given crime or misdemeanor, the guilty in one section of the country be subjected to a given method of treatment —those in another section to another method—and those in the third section be left without treatment, with a view to compiling statistics as to which is the best way of dealing with these people. No, we must do in the premises what seems to us to promise best results: after having done this, but not before, it is perfectly legitimate to note what method seems to best accomplish our purpose.

There are, then, instances in which we are perfectly contented to base our action upon opinions instead of upon any inductively demonstrated facts. I feel confident that at present (and, I suspect, for a long time to come, if not forever) the strongest and safest advocacy of Homœopathy will regard the questions as one of *opinion* rather than of inductively demonstrable fact.

I should be as unwilling to advise a purely statistical solution of the question whether similars cure, as to advise a purely statistical solution of the question of dosage. Upon the question of dosage I greatly value rational considerations such as Dr. Wesselhoeft himself years ago brought to bear upon dosage; and I feel strongly that rational considerations should be brought to bear upon the question of similars too.

I trust that neither inadvertently nor otherwise will the Institute act upon Dr. Wesselhoeft's suggestion, which calls for the passage by it of a resolution favoring, as an experiment, the omission for a time (several years, he suggests) of treatment of certain classes of hospital patients. An incidental advantage, which might result from such a resolution by the Institute, would be the weakening of an inordinate confidence, common among laymen, in every *post hoc* as *propter hoc*. This confidence greatly retards progress in medicine, and would go far to weaken it. I would not, however, for the sake of this incidental result, have the resolution suggested by Dr. Wesselhoeft passed.

C. F. MENNINGER, M.D., Topeka, Kan.: I can say but a few words in order to present this subject, and in one particular line upon which I think we as physicians must work in order to demonstrate the law of similars. It is that line which all school teachers adopt in teaching their scholars, it is that they must keep a faithful record of what they do. The one thing that I must do in order that I may demonstrate this law of similars, is to note most carefully the condition of the patient at the time that he applies for treatment, noting everything objective as well as subjective. Now having a knowledge of a drug which we suppose upon our hypothesis to cure the most similar disease, I apply this experiment as I would apply any experiment in the chemical laboratory, noting most accurately what I give and how I

give it. Now observe the results that follow, objectively as well as subjectively, and only in that way by keeping the most accurate record, as is recommended by Hahnemann and all of his ablest exponents, can I arrive at some conclusion. That conclusion will either support that hypothesis or it will fall. If it supports it in a majority of the cases, then I think we have adduced proof inductively sufficient to demonstrate its value.

C. H. EVANS, M.D., Chicago, Ill.: When Hahnemann in the course of his inductive experiments proclaimed a discovery which he formulated as the law of similars he was in the same line of discovery, and used the same methods that Copernicus, Keppler, LeMarck, Newton, and along the line of physicists and naturalists and chemists—the true and the only certain method of knowing nature's laws. This discovery, of which he applied the clinical test during the century past, all his disciples, and each and every one of us, verified day after day, and even hourly, the correctness, the certainty, the truth of this proposition: that it is a law, and has been demonstrated in precisely the same way that all natural laws have been demonstrated to be true, by continued application of the formula, proving it constantly in practice, showing that the effect always followed when certain rules are observed. While Hahnemann made the discovery and set the thought in motion, we have spent the greater portion of the century on teaching and indoctrinating the methods that he lays down in the *Organon*. This was necessary if it took a whole century to do it: and while we should never forsake the actual principles that he taught so well, we should continue them in the future just as he had done in the past; the foundations have been laid broad and deep, but we have yet to demonstrate the capabilities of the law of similars, just as the distinguished discoverers whose names I have mentioned discovered the law itself and applied it to a certain extent, still all their successors have shown how many more things undreamed of in their heaven have become possible, which theretofore were never supposed to have any connection with it. The field has been developed and widened and broadened. We have just the same duty to Homœopathy; we have the same duty to demonstrate this law as all the workers in the different lines of natural science have. We have applied the clinical test, and the continued application of that test in the next century should be more certain of rendering our position safer than in the past. It is not sufficient that the indicated remedy cures such and such disease, but it should be demonstrated what it was that was cured. It should be shown what the indications were. They should approach the exactness of scientific research. Our clinical records in our different journals are not sufficient of themselves. A great deal is taken for granted; a great deal is assumed. It is not proven to the extent that it should be or could be. There is not sufficient precise information given as to the condition of the patient when the medicine was administered, nor the course of it, nor the result in the meantime, or the result in three months afterwards; whether it was an actual cure or whether

there was any relapse; or whether a certain stage only was cured and later states sowed themselves over all. We need more of this precise accurate reporting of cases, and that when this is done the mass of evidence will not only strengthen our own hands, but will convince the public that the law of similars is still on trial, not only the general public but the medical public as well—those who are in sympathy with the law of similars.

R. WALTER, M.D., of Walter's Park, Pa.: I am, of course, very much interested in the discussions that we have heard, which have proved to my satisfaction at least that these gentlemen are doing some thinking along the right lines. I wish to add my testimony in the same direction. I would begin with the science of astronomy, based upon the discoveries of Sir Isaac Newton, as these were developed by the inductions of previous investigators, as the best representative of the development of knowledge, and would say that Homœopathy or any other science, as soon as it can be developed upon the same lines, will prove to be equally successful. Hahnemann during all his earlier years was engaged in the work of induction—trying to discover the truth; in his later years he was engaged in the work of deduction—trying to prove the truth. And his followers from that day to this have been engaged both in induction and deduction—for deduction is the crowning feature of induction. As long as you continue to try to discover the truth by experimenting, you will never have the truth demonstrated to your satisfaction; but if you have discovered the law, and from thence proceed to demonstrate that law by the production of the results, you will have demonstrated what human reason cannot gainsay. The gentleman asks us to stick close to the real law, and give more attention to the minutiæ. He is right. The question is why has Hahnemann's law never been proven to the mind of the reasoner? Because while Hahnemann *discovered* a great law and gave it to the world, he never *formulated* it. And the law of similars has never yet been consistently formulated. The mere statement of the existence of the law is not enough. Newton formulated the law of gravitation when he declared it to be a universal law—for Copernicus, Keppler and hundreds of others had long observed its operations—but it remained for Newton to complete the discovery. *They* never formulated the law; *he* did. When you have the correct form of Hahnemann's law as a basis from which to reason, you will have an exact science and there will be no excuse for the unsatisfactory conclusions we have heard concerning Homœopathy. Hahnemann's law will be demonstrated to be a great fact. The world in which he lived and the one in which we live are vastly different, and we have opportunities now vastly superior to his. Thirty-eight years ago I began the investigation of this subject, but have been engaged in Homœopathy only about five years (applause). During this period, having been declared myself to be beyond the reach of medicine, I abandoned its use. The essayist says no experiments have ever been made in the treatment of disease without

the use of medicines. I cured myself without medicine, and for twenty-eight years I treated patients without medicine, and by my studies finally established in my mind the law by which this was done. I formulated this law and published it six or eight years ago, and after I had published and begun to apply it I found that it was identical with Hahnemann's law of similars; and this fact has made me a Homœopath.

A. C. COWPERTHWAITE, M.D., Chicago, Ill.: I feel that in the enormous time of five minutes placed at my disposal I cannot possibly say anything that will be of any special benefit to you or to the question under consideration. In the first place you will observe the word "unequivocal," and that one word takes from us almost every argument that we might bring forward in connection with this subject. What have we in this world that is unequivocal? We say we have it, but the science of to-morrow may show us that we have it not. The word "unequivocal" means a great deal, and means far more than you might at first have thought. I think it is quite probable that we have not an unequivocal demonstration; but if we had a demonstration that satisfies our conscience—and that demonstration has been continually going on, not for a year or two, or five, or ten years, but is the result of a century of experience and investigation—it seems to me that it is rather late in the day for us to demand what might be called an unequivocal demonstration. It has been stated by the essayist that in order to understand thoroughly the results of clinical tests, we must first know whether or not the patient would not have recovered without the use of that drug. I can hardly conceive this to be true. It would be very unreasonable for us to demand such an insight into the nature of a diseased state from our clinical experience, and it is certain that our present knowledge of pathology would not give us the desired information.

We have seen exceptional illustrations during the past few years of the possibility of recovery from disease without the aid of medicine in the so-called Divine healing methods, faith cures, Christian Science, and kindred modern fads. These methods bring to bear influences not altogether without merit, which in many cases have apparently cured desperate cases of disease, and probably exemplify to us the most perfect plan attainable for the treatment of disease without medicine. Yet how many people that might have been saved by the administration of the appropriate medicinal agents, go to their graves under these systems of cure, and how many come to us from these healers only in the last stage of critical disease, and are promptly restored to health by the use of medicine. I have had this experience many times, and doubtless others can say the same. Certainly we have plenty of evidence of the falsity of all non-medicinal systems of cure, and equal evidence of the vast superiority of Homœopathic medication. So it is fair for us to assume that a large percentage at least of the cases treated by Homœopathy would not have recovered without it.

At all events, it strikes me as rather a strange performance, at

the end of a century, after Homœopathy has successfully passed so many crucial tests, and has proved the truthfulness of its claims so many times and under any and all circumstances, just as it reaches its crowning glory of triumph, we find so many of its professed adherents wandering away, longing for the flesh pots of Egypt until they have fallen into them all over head and heels, and now it is deemed necessary for us to come together and confer as to whether or not after all we have an unequivocal demonstration of the truth of Homœopathy. If it is given the departed the power to watch over our actions from the spirit world, I wonder what is thought of us at this time by Hahnemann and Bœnninghausen and Hering and Dunham, and thousands of others who have lived and died in the faith. Verily if it be possible for the disembodied to feel the pangs of grief and mortification, we may be sure that the Hahnemannian Society of Heaven is to-day clothed in sackcloth and ashes.

J. S. MITCHELL, M.D., Chicago, Ill.: I listened with great interest to the essayist, and I wished that the latter portion of his admirable address might be read in every medical society of the land. The catholic spirit that it contained is something we should all be guided by, and one by which Homœopathy could very often profit. I believe in hospital statistics. I have more faith in the records of a well-regulated public hospital in the use, for instance, of antitoxin proved by different observers, than I have in isolated instances of clinical experience which we find in so many of our journals. These questions are of the deepest importance. We want to remember that Homœopathy is not only an unsettled question, but a very widely debated one. From the days of George Washington and Alexander Hamilton we have divided our time upon simple questions of finance and tariff, and there are men sitting before me who hold the most diverse views on the financial question. I believe that we will have great difficulty in deciding this question by clinical experience—the best evidence of the truth of what Dr. Wesselhoeft has said, that one hundred years after its promulgation the Homœopathic law has not been adopted by the general physician, and there is difference of opinion even among ourselves with regard to its absolute efficacy. But it is not possible for us, upon the lines that Dr. Wesselhoeft suggests, to settle this question within a generation. We must have some evidence upon which we can work at present. Now we must remember this, that science is not homogenous, it is heterogenous. We have our gynæcologist and our specialist of every variety. My friend, Dr. Allen, finds that his fever patient is different in Detroit from what he is at Nantucket. French human nature is different from ours, and what applies to an American does not apply to the Frenchman. And for that reason we have our Kepplers. We hold that Hahnemann is our Newton, and that he gave us a law, and those who will take up that law and truly and earnestly apply it, will get results that must astonish them. It will prove to him that it is founded upon a scientific basis, and

that many practice upon that law. Our clinical experience is becoming valuable in that way, and it is now based upon better ground than formerly, since science has come to our aid, so that we are justified in accepting it. I wish that every man and woman was as thoroughly convinced of the truth of clinical experience and the strength of Homœopathy as I am myself.

Dr. Dewey in the chair.

T. F. ALLEN, M.D., New York, N. Y.: In the first place, I want to say to the first part of the proposition which Dr. Wesselhoeft has set before you—to the deductions from general practice—I must say, "Yes." In formulating one of nature's laws, it seems to me that we must do it deductively. Experiment, to settle the question as to whether the law proves itself to be true, may be carried on subsequently as Hahnemann commences, and as Dr. Deschere was able to set forth in his excellent argument. So that we are at liberty to go on with our work with deductions from general practice. Then, again, medicine differs from the natural sciences; it cannot be a series of hard and fast observations. Our bodies and our diseases change, so that in some incurable cases when we prescribe the best possible *similia*, and the patient dies, one may say: I could do no better. Some patients with a disease are prescribed for not in accordance with the law of similars, and the patient gets well. There is this great variety and great uncertainty in the practice of medicine which we must discount. We cannot decide it from a few isolated cases. We require the accumulations of our method of practice from year to year. I find myself unable to get away from this fact, that the law of similars is true, and I am constantly brought back to it. I must believe it, because of the accumulations of experience on a large scale. The law does prove itself true, in that its results are positively better amongst you, immeasurably better, than that of any other school method with which we are acquainted. And little by little, year by year, the experiments upon men and animals will demonstrate and establish this matter inductively as it has been formulated deductively. So that I think the question is fairly before us and may be settled. Do we believe that it has been demonstrated by clinical experience? The latter part of the question, as to whether we know from experimental demonstration of the law that it is true, we all say "Yes!" Sceptics are as thick as hornets. You cannot prove it. You shrug your shoulders. Show me your proof. We must pile up this sort of evidence, and it will be forthcoming when we get our laboratories, and by and by it will be settled along every line. We cannot, however, wait for generations to come and go before we do anything. It is, of course, desirable that all this experimental work shall be done, the more the better.

PEMBERTON DUDLEY, M.D., Philadelphia, Pa.: As to this matter of unequivocal demonstration, I do not know that we are having that.

It begins to look as if it were going to be an unequivocal demonstration some day that there is no such thing as an opaque body. (Applause.) Some day soon we are going to have an address before the Institute on this very topic. I felt a little uncomfortable at the beginning of this discussion for the author of that address. But I am constrained to say that I do not believe very much of Dr. Van Denburg's thunder has been stolen. As regards this matter of demonstration, we all know that knowledge, like some things that have been mentioned this afternoon, is comparative. How many things do we know absolutely? Not very many. I was reminded by the argument I have listened to here, of the argument that was advanced in the earlier time by sceptics in regard to the law of gravitation. When it was suggested that if this proposition were true, that bodies are attracted to each other, then why in the world does it happen that a man doesn't fall off the earth, why, indeed, the earth doesn't fall into the sun? It was due to half-knowledge, to the ignorance upon the point in dispute. Now that same sort of argument has been cited against the truth of the doctrine of the law of similars by the average Allopathic physician. "Why," says he, "I have given Ipecac to cure vomiting a dozen times, but it has never cured it. It doesn't amount to anything." I once used this argument in defending my belief in the doctrine of the law of *similia:* That the practical application of this doctrine is binding together ten thousand doctors in this country in one harmonious whole. I think it is a tremendous argument, and as I said at the time you couldn't hold intelligent men together by a mere wisp of straw in these days. It can't be done. Where there are ten thousand minds and ten thousand pairs of eyes and ten thousand brains coming to the same conclusion by reason of the experiments which those ten thousand people are making every day it is to me almost an unequivocal demonstration. There is another point that ought to be considered, that is the negative side. During the time that these ten thousand have been tied together in this belief there have been ninety thousand other men who have tried to knock this doctrine to pieces, and in all the words that have been piled against it, how many have been based on facts? Where has there been a fact cited that to the mind of an intelligent Homœopath presents the first argument against the truth of *similia?* I fail to find any.

T. P. Wilson, M.D., Cleveland, Ohio: It would be more of a pleasure to me to say something upon this subject if I thought I could settle it. But it is farther and farther from settlement, notwithstanding all that has been read and said about it here to-day. And I rather think I shall add to the confusion that is already abroad in the land. I am very far from being in sympathy with the respected author of that paper, and from a great deal that has been said since the reading. I very much fear that if I open my mouth I shall put my foot in it. Something will happen that I shall be sorry for. But I do say that of all the absurd things that have been attempted

in this American Institute of Homœopathy, it is for this apparently intelligent body of physicians to begin to settle the question of the law of similars, and when you get through with your talking you will find yourself farther from the solution than you were in the beginning. It is an unsettleable, unsolvable question. It stands for just its worth. The whole question of therapeutics is a thing *sui generis*, and it is all nonsense to think that philosophy or science can put a final settlement to it. It has stood a hundred years, and you never are going to settle it by law, logic or philosophy. The proposition made by the honorable gentleman is an absurdity—in effect asking us to take this question of therapeutics out of the court, put it in a cider-press and then analyze the product and see what it is. Every man is a law unto himself, and his own experience will tell him whether he is striking the right thing or not; whether he is practicing the law of cure or not. I say that the law of similars is not a law of cure, nor was it ever so intended. We have no law of cure. We have no demonstration how medicines cure. The law *Similia Similibus Curentur* does not explain one particle how medicine works. The law says that likes are cured by likes. It is not stated in that law how they cure; it merely directs you how to give a medicine, and there the matter stands. If you can get beyond that by any law or process, through any laboratory or any other method that you can institute—if you can get beyond that you are a greater man than I think you are. I believe the essayist said Hahnemann had never proved any remedy but Cinchona, but he gave it and he cured. Does the honorable gentleman mean that no other remedy has been thus proven, and that all will not act in the same way?

BUSHROD W. JAMES, M.D., Philadelphia, Pa.: I am very sorry that Prof. Wilson ran off of the subject so considerably. We are talking about an unequivocal demonstration of the law of the "similars." He says there is no science that can settle the positiveness of this law as others have been settled by science and demonstration. To my satisfaction I have demonstrated that there is a law, and I have seen it operative in thousands of cases. I have seen the remedies act; I do not say that I have found out the precise histological way in which they act; that I grant is among the impossible things of this world. It is not necessary for this Institute to decide the fine point of just how they cure. We bring forth the facts, and we say we have a remedy that has been proven upon the human system in health, that will also cover cases and relieve or cure them when the symptoms similar in outlook are produced by disease. We have all seen that. Is not that a forcible demonstration of the law of "similia?" There must be some law about it. There are possibly 12,000 Homœopathic physicians in this country that are holding the opinion that if we can cure our cases on this principle, we can claim that it is done under the law "*Similia Similibus Curentur.*" I think we are demonstrating that every day by our experiments and by Homœopathic medicinal action upon the human

body. That that law is settled upon some solid foundation, and that it will some day be determined upon as a general law, even if, as yet, it has not been unequivocally settled. Now, as to Dr. Dudley's Ipecac, if I understand him correctly. I have seen many bad cases of vomiting cured very promptly by the action of attenuated Ipecac. I have perhaps used a little different way of administering the Ipecac from Dr. Dudley. He may have given a low preparation, and may have been proving his remedy in the form of an aggravation. I have given it higher than he possibly, and proven its value just as Hahnemann has told us to do. I do not say that because my Ipecac in two or three doses cured my cases, that there is no truth in the law of *similia*. I say that there is a law for the administration of remedies as well as a law of cure, but you must get the proper dose as well as the proper remedy. I might produce an aggravation and a cure with the sixth. Therefore I do know that there is a law of cure—the law of *similia*—and also that there is a law of dose. And, therefore, Dr. Dudley's case of failing to cure a sick stomach with Ipecac is plainly traceable to the size of his dose and the form of the Ipecac given.

There being many calls for "Dudley, Dudley," to answer Dr. James, Dr. Dudley, amid much merriment, with permission of the Chair, said:

"You have all heard the story of the boy who was being most unmercifully whipped by the school-master, and yet the more the master thrashed, the more the boy laughed and laughed. Presently the teacher stopped and asked: 'What are you laughing about?' Said the boy: 'You're licking the wrong boy.'" (Great laughter and applause.)

It was then explained to Dr. James that it was not Dudley who gave the Ipecac, but an Allopath to whom he was referring. Dr. James said he had not heard the first part of Dr. Dudley's remark then, about its being an Allopath.

A. B. Norton, M.D., New York, N. Y.: I wish merely to say one word in regard to the scientific value of provings of our remedies. I believe that our clinical demonstrations are good so far as they go; still we should have a more *scientific proving* made of many of our remedies. In my own specialty, for instance, that of the eye and ear, we have an opportunity in clinical work to give an *unequivocal* demonstration of the action of our drugs under our law. The proving of drugs upon the human body has not yet been thoroughly carried out so far as the eye is concerned—of course there are some few exceptions. Now if, in making our provings, the drug-action upon the eye were carefully watched by competent oculists, we could *see* positive effect or changes produced upon the various coats of this most delicate organ of the body. Then having seen or dem-

onstrated the positive drug-effect upon this sensitive organ in health, we can by our law of cure *unequivocally demonstrate* the action of drugs upon diseased states. There is no more convincing proof than that of our eyesight, and in the eye we can see the deeper action of drugs better than we can in any other organ. Five years ago I made a plea before this Institute for a thorough examination of the eyes of all persons both before, during, and after a proving by oculists, so that we could record scientifically the positive drug-effect upon the eye.

I believe that such examinations should be followed out in all special departments, as in this way, and this only, will we ever be able to bring scientific order out of our present chaotic mass of symptoms.

M. W. VAN DENBURG, M.D., Fort Edward, N. Y.: Like our worthy chairman, I cannot keep still. The question put down here for discussion by Dr. Wesselhoeft is familiar to you. If I understand the enunciation of the proposition it is not, as I understood Dr. Wesselhoeft debate it. It does not read "Has the law of similars ever been unequivocally demonstrated by deductions from general practice in the matter of records—written records?" I admit that we have not the written records, perhaps, that would stand the test of science most rigidly and unequivocally, but the point that was touched upon very clearly by our worthy President and by our chairman, as well as by Dr. James and perhaps several others, was the meaning of the expression of unequivocal demonstration of the law of similars. It has been thus demonstrated not only in the experience of thousands of practitioners, but in the experience of every practitioner in this room. Is there one who listens to my voice this afternoon who never gave Belladonna enough to cause a headache? Is there one who listens to my voice who has never given Belladonna in such a way that he was convinced, beyond a reasonable doubt, that it helped the headache? If you have done that thing unequivocally, then you have demonstrated unequivocally the law of similars. One may be here to question whether drugs ever cure or not. It is a perfectly legitimate question to ask; but because we have not the written records, it does not prove that the law has not been unequivocally demonstrated. It is like a judge calling up a witness to prove or disprove a case of theft. Gentlemen, he says, if you bring me testimony here, type-written, I will listen to it. If you cannot, I will not listen to it. There seems to me no such meaning put down in the question. I have the utmost respect for Dr. Wesselhoeft. I do not say this thing in any spirit other than of fair debate, but the very reading of our journals shows me and shows you unequivocally that in the minds of the men who use this system there are certain things in relation to the law of similars that are unequivocally settled. There are drugs by the score in which the law of *similia* has been unequivocally demonstrated. But because we have no written testimony, have we nothing that is tangible? We may have all the objective and subjective symptoms that will con-

vince any one of the direct action of the principle of *similia*, yet because we have no accurately written testimony, shall we say it is not unequivocally demonstrated? Shall we say we have the thermometer, the stethoscope and all the other instruments of precision known to our profession used in every case and the result reinforced by other cases, and then the grand total and average arrived at written out and put upon record, before we have the requisite proof? I contend that we have had unequivocal demonstrations of the correctness of the law in thousands upon thousands of instances.

H. C. ALLEN, M.D., Chicago, Ill.: I want to congratulate Dr. Wesselhoeft upon writing the best agnostic address on this subject that I have ever listened to, but when he said in his opening remarks that having formulated his question, he looked around upon the school or he waited for some one to step in and answer the question, he was at last compelled to do it himself. I respect him all the more for that. I doubt if there is a man in this room to-day that can write one-half as able a document on that side of the question. But that he has touched this question in the slightest degree, so far as evidence is concerned, I deny. The propositions which he makes us for a scientific investigation of this question—the inductive method—I also deny. There is no earthly use to attempt by inductive methods the provings of drugs or remedies or medicines upon the lower animals. It is not they that are to be treated or visited by us as physicians. Our brothers of the other schools have been doing that for years, and what little distinction they have as physicians has risen from that one point; it is as near as they can get to human beings it seems, and it is vastly better than the old systems of guessing at the ailments of the body and then pouring in drugs without rhyme or reason. But when it comes to treating the sick, how much farther are they advanced than they were a thousand years ago—in therapeutics? Not very much.

Just one other point. Hahnemann tells us that there are a great many cases of acute disease that are self-limited, that will get well of themselves; that is why we should exclude acute disease from any crucial test as to the efficacy of medicines given; but I maintain this is not true in regard to chronic diseases. It is there where the law of similars is fully demonstrated. These cases never get well of themselves. Our friends of the other school are unable to cure chronic diseases, are not doing that kind of business. There are two kinds of science: the science of Homœopathic therapeutics and the science of all the other schools combined. While we discuss this question these two kinds of diseases, acute and chronic, should not be lost sight of. I am of the opinion that the results of our work for the last hundred years will bear most careful and critical scrutiny and the test of the most rigid and skeptical investigation.

E. M. KELLOGG, M.D., New York, N. Y.: A practical proof of the truth of the law is deducible from medical statistics, which show a markedly decreased mortality under Homœopathic treatment.

DR. WESSELHOEFT (the essayist), in closing the discussion, said: I am very glad to say that there is very little to rebut. I think what has been said here with regard to my very imperfect article was more to fill up gaps in it than to controvert it. I may venture just a few remarks as they happen to come to my mind in looking over my memoranda. The first thing that was said as to Hahnemann's clinical evidence was that I rejected it. I only rejected it as far as he gave us the rules for so doing. Shall I accept the opinions of A, B and C without other demonstration or proof that their statements are correct? Would that be the part of wisdom? Opinion is no proof of a law. Suggestions are good. I don't wonder that Hahnemann adopted them, but that does not prove their value. As mere suggestions they would go but a very little ways. We are thankful for them at the same time. Dr. Deschere's remarks I fully agree with, that the Old School has done a vast amount of work which proves our law, which proves it unequivocally; but why not do that ourselves? As far as the law of similars is concerned as compared with Newton's law, I think there must be a very enormous difference in the amount of work done to establish Newton's law as compared with the establishment of the law of Hahnemann from a single solitary experiment. It was all right, the method of it, but there was not enough—we ought to have more of it. The word unequivocal I did use. Perhaps it is not just the word I want to express my thought; but the system is not demonstrated entirely beyond doubt, so that other people besides myself may or can adopt it. I don't say absolute; I did say unequivocal. I think we should accept it, but on stronger evidence than that on which we have received it heretofore. I think that the future will furnish it. Dr. Cowperthwaite thinks also that the no-medicine idea has been tried a great deal. I don't doubt that it has in a certain way; but he thinks it can't be carried out, that we must give medicines. I know it is very hard not to give medicine. I feel tempted to give medicine every time. It has grown on us for centuries, and we cannot throw it off. We don't have enough knowledge of the natural course of the disease. I remember very well the experiments Dr. Kellogg refers to, but while Dr. Dietl did not give drugs or medicines, he did give them strong tonics and wines and other things that we would consider strong. It was not expectant enough. I don't consider that as sufficiently expectant. I think that the same remark could be made as to what others have said. I don't reject what has been done in the last hundred years to prove the existence of the law of similars, but I say it has not been enough. It is said: Hahnemann has said so, and that is enough. But may we not judge of Hahnemann's work by his own rules and directions? If we go a little farther than he, is that wrong? Is that a sacrilege? I think it is not. I think we ought to go on a little further. Hahnemann's experiments were very rare. The methods of experiment had not been developed, and it was very natural that one experiment was considered as enough to foreshadow the law; but proving it so that it could be universally accepted, that was not accom-

plished. I accept all that has been said as an addition, as an amendment to my paper, and accept it very thankfully.

The chairman then drew up a short statement of the facts as gathered during the discussion, avowing a belief on the part of the committee and the conference that Homœopathy was still a dominant factor in the minds and hearts of the members, and that, as to them, the law had been unequivocally demonstrated numberless times.

THE CHAIRMAN: I feel it imcumbent upon me as chairman to do something with this matter. We have had the paper; we have discussed it; why not have a summing up and make a report? I am perfectly willing to postpone it, and I think perhaps it might be well to postpone final action.

Dr. Fisher moved that the resolution be deferred until the close of to-morrow's sessions of this conference. So ordered.

An adjournment was then taken.

SECOND SESSION.

SECOND TOPIC.

JUNE 16, 1896.

"In What Particulars has the Proving of Drugs Deviated from the Rules Laid Down by Hahnemann in the *Organon*, and in What Particulars do Hahnemann's Rules and Directions for Proving Drugs Differ From or Fall Short of those Required by the Methods and Precautions of Modern Scientific Research?"

Dr. T. F. Allen, the chairman, offered the following interesting remarks:

The methods of ascertaining the properties of drugs and the rules for making provings observed and recommended by Hahnemann are in brief as follows:

Individuals.—Provings are best made by physicians on themselves, for they are most competent to observe, but as a drug cannot develop its full powers in a single individual, or as a result of one experiment, many individuals of different sexes and ages must be selected and many experiments made.

NOTE.—Even if the effects are noted in but one or a few individuals, the tendency of the drug to excite them in *every* one exists, and it

will cure similar symptoms in the sick. Healthy persons must be selected; observations of the effects of drugs on the sick do not furnish "pure effects." The best provers should be delicate, sensitive and irritable. During a proving no other drug, no spices, coffee, tea, wine nor brandy, no roots nor herbs, no vegetable soups should be taken, nor should unusual mental or physical effort or excitement be permitted.

Cases of poisoning have furnished the first rudiments of a pure materia medica.

The Record.

The whole pathogenetic effects which drugs are capable of must be known; all symptoms and all deviations from a state of health.

Everything is to be excluded from a materia medica which is *conjectural*, *assertive* or *imaginary*.

After a drug has been administered to a prover, all subsequent symptoms are to be observed and noted as "solely derived from the medicine," even if such symptoms had been noticed some time previous to the proving (138); but to distinguish drug-symptoms from disease-symptoms is to exercise higher judgment, and is to be left to masters in observation (142).

Doses.

Provers must begin with small doses in order to avoid the confused effects of over-dosing, and to obtain a clear sequence of drug-effects from the first dose.

In the earlier editions of the *Organon* Hahnemann recommends as follows: "If a plant has feeble power and can be gathered fresh, use an infusion, taken while yet warm, to avoid fermentation; the expressed juice may also be preserved by a little alcohol to prevent spoiling."

"Of foreign drugs mix some of the powder or tincture in water."

In the later editions Hahnemann advises to begin a proving with a few globules, medicated with the thirtieth potency, in a little water.

Avoid repetition of the dose, since some of the effects of the first dose will be removed, or an opposite state will develop.

The duration of action of a dose can be determined by repeated experiments.

A physician must supervise with great care the symptoms of his provers. The conditions of time, of aggravation and of amelioration are especially to be noticed, and, if possible, determined.

Usually in provings we observe only the primary action, but among them are noticed often opposite symptoms, which are not actually secondary but alternating states.

In cases of poisoning the later results are the exact opposite of the first; the first are primary, the later secondary symptoms.

Apparent individual idiosyncrasies are to be noted as genuine when observed as symptoms; even though they develop rarely, they may be peculiar to the individual, but are the result of drug-action.

The speaker would add the important observation that isolated provings or observations must not be ignored because isolated, or because not immediately verified by other provers.

All such observations when apparently genuine must be preserved in the materia medica; *first*, because of many observers, only a few will develop effects similar either as to locality, function, or sensation, though as a rule the conditions under which these diverse symptoms occur will be similar; *second*, because a *materia medica* must grow by accretion, and any observation may in the future harvest, after many generations, prove extremely important and be abundantly verified; *third*, because a drug of wide sphere of action will attack different organs and tissues in different individuals according to their susceptibilities, and the symptoms can be compared only after a large number of provers shall have been grouped according to the varied manifestations of drug-action.

Essay by Dr. Eldridge C. Price, Baltimore, Md.: Mr. Chairman, Ladies and Gentlemen: I have merely touched upon the confines of this vast subject, as you will all see from the size of the paper I am about to present to you. The subject is capable of such extensive consideration that it would require, for going into all its details, more than one session of the Conference of Materia Medica.

In What Particulars Has the Proving of Drugs Deviated from the Rules Laid Down by Hahnemann in the Organon, and in What Particulars do Hahnemann's Rules and Directions for Proving Drugs Differ From, or Fall Short of, Those Required by the Methods and Precautions of Modern Scientific Research?

By Eldridge C. Price, M.D., Baltimore, Md.

It is with a feeling of hesitancy that I undertake to consider and, as far as I am able, to answer a question fraught with such grave significance. The task requires that, without fear of favor or disfavor, a critical comparison be made between the work of drug experimentation of the followers of Hahnemann and the rules prescribed by Hahnemann for such work, and also a comparison between these Hahnemannian rules and the requirements exacted by the most critical methods of "scientific research" known at the present day. In other words, to answer the question propounded it is necessary that, first, the work of the followers be examined as to its thoroughness, taking the rules given by the master for such work as a standard, and second, the rules themselves must be examined as to their efficiency in the light of modern scientific thought.

The proposed question may therefore be divided into two, each of which queries requires separate consideration. First, then, "In what particulars has the proving of drugs deviated from the rules laid down by Hahnemann in the *Organon*?

On referring to the *Organon of Homœopathic Medicine*, Dr. Hering's translation, we find a number of sections devoted to a consideration of what Hahnemann regarded as requirements necessary to the construction of a reliable drug pathogenesy; it will be necessary, however, to refer only to those which have been infringed.

Section 121 says: "Finally, if we would try the effects of the weakest substances, the experiment must be made upon persons only who are, it is true, free from disease, but who, at the same time, are possessed of delicate, irritable, and sensitive constitutions."

This has not been observed, as records of supposed effects of drugs which were tested upon apparently *healthy* provers—which drug preparations were among "the weakest substances"—are found mixed together with the supposed effects obtained from *diseased* persons during the administration of these same substances. In fact, Hahnemann himself infringes this section in his *Materia Medica Pura*, and herein sets the example for irregular practices in his followers. Section 142 may be offered as Hahnemann's excuse; but this should not excuse even the master, as there are too many possibilities for mistakes in attempting to distinguish pathogenetic drug symptoms under such circumstances, even by "masters in observation."

Section 124 proscribes the use of more medicines than one during the time of proving. This section has frequently been ignored, as is shown in records of assumed drug effects wherein other drugs have been interpolated for annoying symptoms, and also in cases where antidotes to the drug under test have been administered and the record continued after the use of the antidote.

Section 126 denies provers "all fatiguing labor of mind and body," but provings have frequently been made upon medical students who were at the time undergoing "fatiguing labor of mind; hard-worked physicians have also made some provings.

Section 131 is so rarely observed that we may regard it as a universally broken rule among provers. Its entire quotation is necessary: "If, to acquire at least some knowledge of a medicine, it is found requisite to administer to the same person, several days in succession, doses of the same, progressively increased, this may show us the various morbid changes that this substance is capable of exciting generally; but we do not learn the order of their succession, and a succeeding dose often extinguishes one or other of the symptoms produced by the preceding one, or creates in its place a contrary state. Symptoms of this kind should be noted between two parentheses, as being equivocal, until new experiments of a purer nature shall have decided whether they are to be considered as the reaction of the organism, or the alternating effects of the medicine."

This section comes very near to the heart of the question, touch-

ing closely Hahnemann's understanding of the necessities and requirements of pathogenetic drug experimentation, and also involves his idea of duration of drug-action even when applied to therapeutics. If this section has been infringed by experimenters, then indeed the teachings and proving rules of Hahnemann have been disregarded. That this is the case it is only necessary to refer to our standard collections of provings, where will be found records of single doses, daily doses, hourly doses and even more frequent administrations, mixed together in total oblivion of the Hahnemannian injunction that effects of drugs from frequently repeated doses "should be noted between two parentheses, as being equivocal." No distinction between doses of varying frequency is noted, but the whole is jumbled together in one heterogeneous mass, in utter disregard of Hahnemannian sense, of common sense, of scientific sense.

Section 137 says: "If the dose be excessive, there will not only be several reactions visible among the symptoms, but yet more, the primitive effects will manifest themselves in a manner so precipitate, violent and confused that it will be impossible to make any correct observation." This has been ignored in a number of proved drugs, among which Thuja is notable. In this drug the doses taken were so large that the alcohol imbibed must have commingled its effects with those of the drug.

Sections 124 to 127 are stated in Section 138 to be "necessary to the trial of a pure experiment," but as we have seen that Sections 124 and 126 have not been obeyed—nor has Section 127, in relation to sex, always been observed—consequently the proving of drugs in the past is shown to have deviated from the rules laid down by Hahnemann, even if we considered no further infractions.

Again, Section 139 has not been observed by the average prover. Few drug experiments have been conducted with the care in recording symptoms herein enjoined.

In Section 142 we are told that the observation of symptoms of drugs which appear in diseased conditions (pathogenetic symptoms due to the drug independently of the disease), should "be left to masters in observation;" but we find in our alleged pathogenetic symptomatologies records of symptoms supposed to have been produced by drugs during the treatment of patients for diseased conditions, and which records have been made by those we would hesitate to call "masters in observation." In the work of compiling records of mixed drug-effects reported in our literature how many such superior minds are detectable?

From the sections of the *Organon* to which reference has been made, it is evident that Hahnemann intended that drug experiments should be conducted in accordance with definite rules, but from the infringements noted it is equally evident that this intention of the master has not been observed by his followers, either in accordance with the letter or the spirit. On the contrary, our records of experiments with drugs show a most censurable lack of system, which evidences either an ignorance of the *Organon* or contempt for the wisdom of its author, or both. Assuming, however, that this irregularity which has characterized the drug experiments of the Homœopathic profession is due to neither an ignorance of the book nor disrespect for its author, it becomes obvious that our experimenters were ignorant of the fallibility of human testimony, understanding nothing of the possibilities of collusion, self-deception, auto-hypnotism, etc., knowing nothing—or showing no knowledge—of practical psychology, which is necessary to the management of a systematic test of drugs upon the human organism. However, until comparatively recently a knowledge of subjective influences was almost a sealed book, and even yet a knowledge of psychology in its application to material problems is in its infancy, and hence our drug experimenters of the past cannot fairly be held responsible for mistakes which were not due to individual ignorance alone, but to universal ignorance. Accountability is proportioned to knowledge, and consequently we can hold our pathogenetic experimenters responsible only for neglecting the duty which was plainly theirs, *i.e.*, they may be held accountable for not observing the rules prescribed by him whom they recognized as master of the art of drug experimentation. (I am speaking of the work of our drug pathogenetic experimenters as a whole, and not of the work of any individual, however closely the individual exceptions may have observed Hahnemann's rules; it is the mass I am considering.)

At this juncture we are confronted with a doubt as to whether or not the rules laid down by Hahnemann were sufficiently rigid for the purposes intended, whether, at the present stage of human history, we have not grown beyond the limitations of even the most progressive doctor of medicine of the early part of this century. To answer this doubt we will proceed to consider the second part of the question before us:

"In what particulars do Hahnemann's rules and directions for proving drugs differ from, or fall short of, those required by the methods and precautions of modern scientific research?"

Hahnemann was not only abreast of the knowledge of the time when his work was done, but he was in advance in many respects. However, as no one denies that since the *Organon* was written much progress has been made in all branches of knowledge, so likewise no one will deny it was impossible that Hahnemann should or could foresee all the future development of methods and of details for the more ready and more thorough demonstration of the principle of which he was the formulator. Consequently, when we regard Hahnemann's rules for proving drugs we discover them to be inadequate to the purposes of modern experimentation, which latter methods bring to bear an amount of psychological and other special knowledge of which the wisest men in the time of Hahnemann were ignorant.

Aside from the fact that Hahnemann's rules for proving drugs are not sufficiently rigid to conform to the requirements of modern methods of thought, I think we can fairly claim that they are not always practicable. This latter is sustained by a comparison of the two sections, 108 and 121, respectively (in which *healthy* individuals are stipulated as necessary for proving drugs), in the face of the demonstrable fact that a *healthy* human being is rare, the *approximately* healthy individual representing far more correctly the race of men now inhabiting the face of the earth, just as was also the case when Hahnemann wrote the *Organon*.

In a general way, Hahnemann's rules are not sufficiently definite and stringent in the directions for preliminary health records, nor do they take cognizance of the necessity for the examination of provers' objective and subjective manifestations by specialists simply because in Hahnemann's day expert specialists, such as we now have, did not exist. This last fact alone shows the rules in the *Organon* to be far behind the requirements, nay, the necessities, of science: and if no other reason existed, this defect furnishes sufficient cause for the formulation of new and better rules for testing drugs. There are, however, other important defects, an example of which is furnished in Section 138. In my opinion, this section has caused the addition to our materia medica of much adventitious material. Substantially, this rule states that *all* symptoms appearing in a prover during a drug test, even though such symptoms may have appeared before the test (a "long time" before are the words, but *how long* is not stated, which is most unsatisfactorily indefinite), are the result of the drug under test. The inference may also be fairly drawn from this section that other influences need not be seriously

considered as possible causes of symptoms during a drug proving because it is assumed that the "entire organism" is under the "sway" of "a powerful medicinal agent" at this time, and, hence, any and all symptoms which appear during the proving are due entirely to the drug under test. Such an inference, it must be generally conceded, is harmful, because in a proving made in accordance therewith many symptoms may be accepted as drug results which are due to other causes; and, consequently, in constructing rules for future pathogenetic work the idea embodied in this section should be omitted, and in its place the necessity for eliminating all possible causes of symptoms during the drug test should be taught.

Section 141 teaches that the physician is best qualified of all persons for proving drugs. While this is undoubtedly true, the section is capable of doing harm in indiscriminately encouraging physicians to prove drugs upon themselves, *knowing the substance they are testing.* This section should have contained the idea that no prover should know either the name or the nature of the drug under test (even though he be a physician), and that, though undoubtedly physicians make the best provers, yet when they do prove drugs they should do so under the direction of some other physician. The purpose of such a precaution is to prevent either intentional or unintentional deception.

We find in Section 142 at least the semblance of authority for securing alleged pathogenetic symptoms from diseased persons. The section reads as follows: "But how the symptoms produced by a simple medicine can be distinguished among the symptoms of the original disease even in those which mostly retain their identity, more especially chronic diseases, is an object for superior discernment, and to be left to the masters in observation."

While it is wise to provide for proving drugs upon persons who are not in perfect health, yet such experiments should be classified as strictly as circumstances will permit. In the foregoing section the symptoms obtained from persons suffering from positive diseased states are allowed to be classified with the symptoms obtained from those provers who are in the best of health; this is disorderly and unwise, even though done by "masters in observation." The necessity for classification does not seem to be generally appreciated. In the provisions for future provings I would suggest, therefore, that instead of the idea found in this section, that rules be adopted classifying provers into groups according to the degree of health and

pathological condition of the individuals, according to constitutional defects or vices, *e.g.*, those suffering from derangement of the mucous membrane to be classed together, those having skin disease to be classed together, those addicted to alcohol, tobacco and condiments, respectively, to be classed together, etc.

In concluding the subject of how drugs should be proved, Section 144 reads as follows: "A materia medica of this nature shall be free from all conjecture, fiction or gratuitous assertion; it shall contain nothing but the pure language of nature, the results of a careful and faithful research." This section is capable of misleading, because, from what we have seen, though all the directions given in the *Organon* for proving drugs be strictly observed, we would not have a materia medica "free from all conjecture, fiction or gratuitous assertion." The rules laid down in the *Organon* leave too many opportunities for the assertion of the "personal equation" to be productive of so perfect a piece of work as is stated in Section 144, even if all experiments were conducted by the strictest Hahnemannian ascetic.

In the foregoing remarks the endeavor has been to consider, more than to answer, the propounded question in an impartial manner, regardless of all theory and opinion, but in accordance with the truth and for the sake of the truth. As a result, we find that the proving of drugs by the average experimenters (and they have formed so large a majority that the small minority stands apart as a conspicuous exception) has deviated from the rules laid down by Hahnemann in the *Organon*, not merely at minor points, but vitally, and hence the failure to secure a materia medica "free from all conjecture, fiction or gratuitous assertion" cannot be charged to deficiency in Hahnemann's rules, because these rules have not been fairly tested; but at the same time we have also discovered that the Hahnemannian rules fall far short of, and differ vitally from, the requirements of "modern scientific research." This inefficiency, however, is not due to any lack of appreciation of requirements on the part of the founder of Homœopathy, but it is rather due to the fact that scientific research had not at that day evolved the present critical methods. Hahnemann formulated the most critically scientific rules possible at his time, and there is no reasonable doubt—to judge from his general breadth of thought—that were he now living he would be the first to encourage this movement of progress, because it is Hahnemannian in spirit.

In consequence of the state of affairs to which attention has been

called, it behooves us, as exponents of the art of medicine and of the science of Homœopathy, to encourage this Hahnemannian spirit, and in the near future to formulate a proper code of regulations embodying the Hahnemannian idea, but framed in accordance with the "methods and precautions of scientific research."

Discussion.

M. W. Van Denburg, M.D., Fort Edward, N. Y.: The *Organon*, Sections 105 to 145, inclusive, gives Hahnemann's directions how to conduct investigations to determine the peculiar curative virtues of drugs.

These sections not only embrace directions how to administer the drug and how to record the symptoms, but also how to interpret, classify and compare the symptoms when they have been observed.

Dr. Price has considered only the administration of the drug and the recording of symptoms, and has pointed out the departures of modern investigation, and of Hahnemann himself, from these rules.

In this respect the paper is all that could be desired, and I have no further suggestions to offer.

But there are other points of interest, the discussion of which cannot be covered in a paper of ten minutes.

One of these is the relation, value and interpretation of primary and secondary symptoms.

Again, I do not think Hahnemann has always been consistent with the theories laid down in Sections 110 and 128.

In Section 110 he says he has found that "toxical properties hitherto mentioned by authors as the effects of medicinal substances taken by mistake or for criminal purposes, coincide well with his own observations while experimenting with the same substances upon himself and other healthy persons."

In Section 128 he maintains that the peculiar latent effects of drugs are best learned, not from crude medicinal substances, but from the drug "taken in the highly attenuated state."

While not diametrically opposed, still these two statements are not by any means harmonious.

Beyond doubt, many of Hahnemann's deductions are of valid importance in proving drugs, but the time has come when each phase of discussion and inference embraced in the Sections 105 to 145 should be taken up, accorded full and exhaustive discussion, and, if possible, be drawn to a final settlement by an authoritative body which should carry the weight of a majority opinion.

Of course, we recognize the fact that majority opinions are not always correct, but they certainly have, other things being equal, the warrant of greater respect.

I had intended to treat still further upon the second question in regard to the particulars in which Hahnemann falls short of modern

requirements. These are given especially in Sections 110 to 125, and refer especially to the subject of primary and secondary symptoms. I do not think that Hahnemann is always consistent with himself here, but the subject is so vast that it is beyond the possibility of making it clear in the time allotted me, and, therefore, I have left it to some one else who may succeed better.

THE CHAIRMAN: Is Dr. Porter present?

J. S. MITCHELL, M.D., Chicago, Ill.: Dr. Porter is unable, on account of his duties as Secretary, to be present, and requested me to take his time, and if it is not out of order, I would like to do so.

THE CHAIRMAN: It is not out of order. He has the floor at the request of Dr. Porter.

J. S. MITCHELL, M.D.: Mr President and ladies and gentleman. Rufus Choate was once asked to deliver an oration which Daniel Webster had been billed to give. Some friend said to him: "I understand you are going to fill Mr. Webster's place to-night." "No," he said, "I am not going to fill it, but I am going to try to rattle around in it." I feel a good deal in that position to-night, inasmuch as I supposed that Dr. Porter had prepared a written discussion of this question; and I should have made no attempt to rattle around in his place except for the fact that I have a suggestion to make in this connection that I trust will be deemed practical—it is no discredit to the great master of our art if he did not, in his directions for proving, recognize the modern scientific methods. It is no discredit at the present day to the great English physician and clinetician, Sydenham, that he did not know the difference between pleurisy and pneumonia. It was all lung fever to him, but he was unquestionably one of the most remarkable physicians that England has ever seen. It is characteristic of all great men, of all geniuses, that they seem to have some sort of impressions that are not only adapted to the times in which they live, but they have a foresight, they have a forethought, and seem to see into the future. It is in this way that we have, in the *Organon*, those glimpses of the germ theory as we understand it to-day. It is for the same reason that we have the indications of the effects of the toxins in the *Organon* just as we now know they exist to-day; so we can say nothing against Hahnemann because, in the *Organon*, all his directions are not adapted to the modern order of fact. Now, this is the suggestion that I have to make, and it is in the line of what was discussed this afternoon. I should recommend that each professor of materia medica in all our colleges, or each professor of clinical medicine, take a certain number of students and train them for research work according to the modern methods, and have them take a certain number of healthy persons and test, first, with the sphygmograph, the normal pulse tracing. Fortunately, through the

invention of our distinguished Dr. Dudgeon, we now have an instrument which will enable us to do this with great precision and with rapidity and ease. Then let the patient take Digitalis, Strophanthus and Convallaria, varying the dose, and make accurate tracings of the pulse effect of, first, Digitalis, then take Convallaria and do the same thing, and then take Strophanthus and do the same thing, under the supervision of each professor; and a report so made to the professor, and a report made to the American Institute of Homœopathy, or to the Materia Medica Conference, in two or three years—I don't think we would have to wait for Dr. Wilson's ten—I think two or three years would give us most valuable data in regard to the action of these remedies in accordance with modern scientific methods. The experimenters should take every detail in regard to the condition of the patient at the time, and endeavor to have these reports made just as accurate as possible. If this was done, and done with care, I think we would have something that we would all be proud of, and something that would be greatly needed in all schools of medicine.

CONRAD WESSELHOEFT, M.D., Boston, Mass.: I regret to say that I have not written down the remarks that I wished to make, if I have any to make, on Dr. Price's paper. I have read it and have a synopsis of it in my hand. I have no criticism to offer on the paper; I think it speaks for itself. It is a subject to which I have given more or less attention, and on which I have written various articles, which I will not trouble you with to-night, except to sum up in a brief way my ideas in regard to helping ourselves out of the difficulties of a most difficult task. The more one thinks of proving, and the more one tries it and experiments with it and proves drugs, the more he should be convinced that it is one of the most difficult scientific undertakings that we can possibly attempt. I say that, because it seems to have been from the outset taken as rather an easy thing. I will not say that Hahnemann himself considered it an easy thing. I think he saw it was an exceedingly difficult matter, and he, therefore, surrounded it with precautions which, as Dr. Price stated, could not have been carried out, for the simple reason that they are too difficult and impossible to carry out in the way contemplated by the founder, and by those who have written on the subject. The idea has fortunately prevailed and is prevalent now, that we should prove drugs. The Institute, during my connection with it for a good many years, always held the idea that it must appoint a committee of provers. For years provings have been published in the TRANSACTIONS off and on; and when we come to compare them, we found just those errors in them, and just those difficulties not overcome, which Dr. Price has pointed out. The fault lies in the extreme difficulty of proving; to find an adept at proving would be like finding a great painter, a great violin player or a great pianist; they are very rare.

Is there a way out of it and can the burden be lightened? Can the experiment be made so as to bear fruit, in spite of its great dif-

ficulties? I think it can, and that has led me to urge the adoption of a method of comparison which rests on the fact that supposing we, as we sit here, should take one of the medicines suggested to-night, observe the results, and compare them, whether we exclude all bad feelings we may have had before or not—it makes no difference—the result should be a good one, provided the comparison resulted *in getting that which is congruous and which agrees among the various provers;* and by excluding that which does not. This way seems to me the more practical one of making a proving. One difficulty in carrying out this plan would be that a large number of qualified persons to make the attempt cannot easily be found. Get a number of persons to make the same attempt. When they have done as well as they can, with Hahnemann's rules as far as possible, without them where they are impossible to carry out, then let them take the results, compare them carefully and keep that which agrees. There we immediately stumble upon another difficulty. What is agreement in proving? Can we expect provers to write down or study independently their symptoms without being influenced by each other? Can we expect them to use the same language? By no means. Still, they may be able to say, each in his own though different words, the same thing. If influenced by each other, or by reading, they are very apt to use the same language, which leads to wrong results.

Those of us who makes provings in the future, should attempt to get as many to take part in them as possible; then compare the results. That is a very difficult matter. It is a matter in which mistakes may be made, but the result will always be that out of a number of provings (an indefinite number, the number cannot be set down arbitrarily; but the more there are the better) *there must be something that agrees; it may be some very little thing; it may be expressed in a very few words, but that would be, in my estimation, the gist of the proving and the only valuable part.* A great deal has been said about not throwing away any thing because it may save the life of somebody, although it might be a symptom which only one out of a dozen had. It seems to me I should not risk the life of the patient on that uncertain excluded symptom; use it if you want to, but the principal thing would be to get that which agrees, and use that in the treatment of the sick under the Homœopathic law, if it is to do any good.

I may be allowed very briefly to allude to what I said this afternoon, to a part of the subject which I had to discuss, which was a criticism of the methods applied in determining the value of the law of cure. I did not enter into long praise of what we have had and used for forty years; and I would be very sorry to have it understood that I do not value the Homœopathic law and its use as we have it; but for my part I am not one of those who think it was given to us in full perfection, with nothing to add to it, with no methods to improve upon. I think there are improvements to be made, and that was all I meant by my paper which I read this afternoon, and if I gave any one the impression that I was throw-

ing the Homœopathic law overboard, I think I can show proof to the contrary; but do let us try to improve upon it and the methods of proving, getting them upon a little sounder basis than they have been.

GEORGE ROYAL, M.D., Des Moines, Ia.: I have listened to Dr. Price's paper, and in the main am in hearty accord with it. As I heard several times this afternoon, during the discussion, we evidently look at things through different eyes, and I presume very likely that what little disagreement there is between us will probably be due to that fact, although I do want to state that I look at the question with a little different eyes, although they are the same as I possessed a year ago before I began the investigation or study of this question, and what little I shall have to say will be to the second part of the question. Concerning the first, I do not think there is any disagreement whatsoever.

I have enjoyed Dr. Price's paper, and in the main am in hearty accord with his views.

What little I shall have to say will be upon a part of the second question: "In what particulars do Hahnemann's rules and directions for proving drugs *fall short of* those required by the methods and precautions of modern scientific research?" An answer to the question will depend largely upon whether the propounder expects and demands that these rules and directions cover every detail, so that a novice, by following them, can make or superintend a proving, or whether he looks upon them as the enunciation of general principles which the expert may elaborate for the guidance of himself and others. If the former, the narrower view, is taken, and Hahnemann's rules and directions are regarded as an architect's blue-print, on which every line and measurement are clearly and accurately traced and explained for the builder, then must we agree with the writer that said rules and directions are woefully deficient. How could it be otherwise? For although, as the doctor has truly stated, "Hahnemann was not only abreast, but in advance of the knowledge of his time," yet it was impossible for him to have foreseen what great improvements were in store for the future, what instruments and other helps the modern scientific physician would have to assist him plan and build his medical structure.

A urinalysis of that day would bear about the same relation to a scientific one of the present day as a tallow candle does to an arc light. I believe Hahnemann saw this, and realized that if he undertook to give a set of fixed rules which were applicable for his time, that they would need revision with every new discovery which gave clearer visions of the great truth he was investigating, and for that reason left us only general principles. I was strengthened in this opinion when I read what Hahnemann had to say to Hecker, who insinuated that to follow the advice given in the *Organon* would degrade the medical science to empiricism of the commonest domestic practice. Hear him:

"My deeply pondered *Organon*, written not without a ripe study

of nature, not without the maturest consideration, in which the instructions for treatment are only given in general formulas, in which no *particular directions* are laid down, etc."* Taking this view of the question, *i.e.*, that Hahnemann only intended to give us general formulas, we can cheerfully and confidently answer that his rules and directions are all-sufficient to meet the most exacting demands, not only of modern, but of all future scientific research.

Looking at the subject from this standpoint, I fail to see how one can read paragraphs 83 to 104 of the *Organon* without receiving definite instruction to the effect that not only all the instruments, but all the skill, not only of the general practitioner, but of the specialists, including the psychologist, should be employed for the purpose of obtaining as complete a picture as possible of the patient's condition.

While reading paragraphs 120 to 145 one can hear the same clear, definite and positive instructions for the proving of drugs in order to secure an accurate counterpart of the disease picture.

In regard to the next point made by Dr. Price, viz., the health of the prover, I am inclined to think that had Hahnemann's followers made diligent search, a sufficient number of healthy persons could have been found for provers. I most fully agree with him when he states that Section 138 has caused the addition of much adventitious material to our materia medica. And yet I am inclined to blame the provers, more than Hahnemann for the result, because in other sections Hahnemann advises that provers abstain from spices, stimulants and excesses of all kinds in order that symptoms resulting from these causes should not be recorded with those of the drug under consideration, and thus vitiate the entire proving.

I never considered Section 141, which states that (other things being equal) a physician is the most suitable person for a prover, to imply that the physician must necessarily know what he was proving. That section simply states that physicians make the best provers, a fact to which any one who has had experience can testify.

From other sections we are, by inference, at last instructed to keep provers ignorant of the drug. Section 142, in the copy of the *Organon* which I have, reads so differently from what Dr. Price quoted, that if he had read it he never could have arrived at the conclusion which he does. My copy reads as follows: "Among the symptoms, especially of chronic diseases varying little in form, it is sometimes possible to distinguish certain symptoms resulting from a simple drug administered for a curative purpose. But this is a matter attended with great difficulty and uncertainty, and should be left only to experts in the art of observing." To me that section clearly says, do not put any symptoms observed in the patient while taking medicine, into the materia medica. When it comes to the last section quoted by the doctor, viz., 144, I must say that Hering's translation is most unfortunate. Here, again, let me give him Wesselhoeft's rendition: "A materia medica of that kind

* See defence of the *Organon*, page 94.

should exclude every supposition, every mere assertion and fiction; its entire contents should be the pure language of nature, uttered in response to careful and faithful inquiry." In this section I cannot believe that Hahnemann is simply boasting of the result of his work, but, on the contrary, is only reinforcing the warning already given and is summing up, if you please, all the advice he has previously given concerning the scrupulous care which is needed to secure a pure materia medica. Therefore, after careful and honest study, I am forced to the belief that Hahnemann's rules and directions "fall short of those required by the methods and precautions of modern scientific research" in few, if any, particulars. On the other hand, the fact that his formulas need to be more carefully studied and elaborated has been demonstrated to me with startling force and clearness. Not only that, but that the builders of our materia medica must be compelled to work to one common set of rules and specifications and under the supervision of one architect. For it is true, as our essayist has intimated, that some of our past builders either could not or would not discern between stone and brick, that others used pine when the specifications called for oak, that some used measuring sticks of their own make, some being an inch too long or too short, some used acute and others obtuse angles supposing them to be right angles, while most of them wrought without a supervisor. And to make matters still worse, an entirely new set of workmen, who had had nothing whatever to do about preparing the materials, put the house together. Is it any wonder that some of the joints did not fit perfectly? Nevertheless the elevations and general outlines of the master builder, Hahnemann, were so thoroughly impressed upon their minds that these workmen, without details, proper instruments or supervision, were enabled to erect a structure which exceeds anything of the kind ever constructed, as the light of the sun exceeds that of the moon. And yet, gentlemen, there are other causes than the above which have marred the beauty of our building.

While I confess that our materia medica. for reasons given here to day, is far from perfect, and that we are able to accomplish with it far less than some of us desire, would that many of those who profess to use that materia medica wonld cease to abuse it. What right has one who never uses Lycop. because he knows it is inert, but who does give tablets compounded of Nux., Merc. sol. and Podo. for constipation, to say that we cannot cure constipation by Homœopathic remedies? What right has another who repudiates all the animal poisons, but uses antitoxine washes, gargles and all sorts of local applications, to assert that our remedies are useless in diphtheria?

What right has the surgeon who removes the appendix, uterus or ovary upon the merest pretext, and as soon as possible after seeing the case, to proclaim that to dally with Homœopathic remedies is not only foolish but dangerous?

Mr. Chairman, excuse this digression, but if there is anything which rouses my ire it is to have a man acknowledge that our

materia medica is as far superior to that of the Old School as a McClain's rifle is to the old flint-lock, and then, after wilfully using the latter and observing the destruction which it has caused, bemoan the fact that the former is not perfect, and consequently he must use the other.

If there is anything that is painful to my ears it is to hear a man that professes to believe Homœopathy to be as far superior to the Old School as a Springfield rifle is to the old flint-lock, and then see him wilfully choose the latter, and when he sees the destruction he has caused he bemoans the fact that the old flint-lock is so imperfect. It is our duty as materia medica men, it is our duty as practitioners, to go to work on these formulas that Hahnemann has given and elaborate those rules and perfect them as Professor Wesselhoeft and Professor Mitchell have said, not to discard Hahnemann's rules or formulas, but to work upon them and reconstruct and modify what is not up to the standard of modern scientific methods.

PEMBERTON DUDLEY, M.D., Philadelphia, Pa.: I have had occasion to study the life of Hahnemann, and I am more than satisfied that as he stood in 1796, in the minds of the people of his day, he was a leader in scientific thought not only in medicine but outside of it, and that were Hahnemann living to-day he would be *a* leader in scientific thought, if not *the* leader. He was that because he was forced that way by the conditions, the environment of his life; he was that because he was educated that way; he was that because his thought tended that way; and I am not sure that it was not because he was born that way.

I shall probably have to say on Thursday night that I am afraid we have not been appreciating Hahnemann from any point of view except therapeutics, and that we probably have not appreciated him even from that point.

Now if Hahnemann were here to-night what would he say to us about the future of our materia medica? Do you suppose he would point back to the rules laid down in this *Organon* and say: "There are the rules, follow them?" I do not believe he would, and I think it were unjust as well as unfair to insist upon it that we hold Hahnemann and hold ourselves down to the knowledge that Hahnemann was able to obtain, secure and make use of one hundred years ago. We would not think of doing that with any other man; you do not exact any such thing from your chemist; you do not exact it even from your astronomers, except as that science is and has been.

Now I want to say that there is just one thing about Hahnemann's teachings as regards the proving of drugs in which I think he has been very seriously at fault, and in which I think his followers have run into a good many errors, namely, in that Section 138 that Dr. Price has told us about, and that some of our speakers have also mentioned, and that is that a prover under the influence of a drug will yield symptoms that are to be noted as due to the action of the drug, no matter what may have been his previous

state of health. If so be, he comes under the rules laid down. I could not possibly accept that doctrine. To me it is utterly out of keeping with scientific work, and this is not only because it says that any symptoms recurring during this proving, symptoms that have been observed years before, shall be included as part of the proving; not that alone, but because of the fact that there are symptoms occurring in healthy people all the time whether they are taking drugs or not, in most people in health, that is, if you define that term to mean symptoms such as we read of in our materia medica, itching, sleeplessness at night, excessive hunger, inability to sleep, a loose stool, a dry stool, a natural stool and a whole lot of other things that occur in healthy people, people that are not sick. They are not symptoms, but they are put down as though they were symptoms; they are symptoms of health, not of disease. You take symptoms like itching, like restlessness and the others that I have enumerated, and a good many others, and they can all be put down as due to the action of the drug; you have symptoms of health and symptoms that are brought on by various influences mixed up with the symptoms of your drug, with no way to separate them except by the exercise of that gumption that he calls for in Section 132, a very difficult sort of gumption to exercise.

I understood the President, Dr. Price or some one to say that these conditions that arise are to be attended to subsequently by experts as set forth in Section 142. Now, Hahnemann says this very plainly in reference to symptoms obtained from patients suffering from chronic disease, as I understand it. But I want to call your attention here to just one point—first, I would like to ask a question: Does Hahnemann wish us to understand that the author's provings of drugs and materia medica are synonymous terms? I hope he does not; I am afraid he does. I do not believe in throwing away symptoms; I do not believe symptoms ought to be thrown away; but Hahnemann says certain symptoms are to be neglected in practice, and then he questions symptoms himself. Shall we not question them then? In your modern provings how many symptoms do you find in practice? I do not find many. I went through the whole of Hahnemann's chronic diseases, but I did not find many symptoms in practice.

MARTIN DESCHERE, M.D., New York, N. Y.: I have very little to add, in fact, nothing of importance to what has been said heretofore, especially to what has been said by Dr. Dudley. Only one point I want to emphasize is that we must honor Hahnemann's memory. It is neither good taste, nor is it practicable to be hypercritical. Hahnemann has left us a masterpiece in his materia medica—so vast that not even the entire profession of Homœopathic physicians, as it has followed him up to date, has equaled him. We have reaped the benefit from his work for a hundred years, and naturally there are faults to be found. Hahnemann was but human; he lived a hundred years before us. Some think he transgressed upon his own rules, but I say he had a right to form exceptions; he knew what

he was doing, and he gives us the reasons why he transgressed, and how he did it. At the same time, it would be very strange indeed if we were not able to improve upon and to add to Hahnemann's work after a century's test; in fact, it is our duty to do so, after his own example according to the most improved methods of our time.

CHARLES GATCHELL, M.D., Chicago, Ill.: The question under discussion is: In what particulars do Hahnemann's rules and directions for drug provings differ from or fall short of those required by the methods and precautions of modern scientific research?

In order to make reply it is first necessary to define what are the requirements of modern scientific research? These requirements are that every experiment shall be conducted under the most rigid test conditions. Test conditions demand that the result of our experiment shall be such as to give positive assurance that no agent was concerned in producing the result save the drug that was used in the experiment. I think it will not be denied that Hahnemann's methods fell short of this. His results were not obtained under rigid test conditions. There is no doubt that Hahnemann was conscientious in his methods, but he was not strictly and absolutely rigid. In order to make provings to-day in accordance with these requirements, they must be conducted in laboratories, surrounded by all the methods of modern investigation and experiment. Hahnemann observed the color of the secretion of the kidneys; he observed whether the urine was pale or dark; he observed its physical characteristics only. But what we need to-day is a proving of drugs that show their action, as affecting the urine, for instance, in regard to the changes in its reaction, its specific gravity, its quantity, variations in the amount of urea, the presence of albumin, and all that belongs to present-day methods. This requires laboratory work, with all the modern instruments of research. After the monument to Hahnemann is completed, a fund should be raised to establish such a laboratory. Only in such manner can the materia medica of Hahnemann be made worthy of entire confidence, and placed upon an enduring basis.

THE CHAIRMAN: Allow the Chairman to remind you that this discussion is for a scientific purpose; it should not be sentimental; it should not be to honor the memory of Hahnemann, but to see how we can make a new materia medica. Shall we exclude symptoms which have not been recorded in accordance with scientific methods? What shall we do with them? Shall we re-prove them? If you please, let your remarks take a practical turn to the subject in hand. Still, I do not wish to criticize any speaker; the time can be consumed in any way he chooses.

H. W. PIERSON, M.D., Chicago, Ill.: In the discussion of this paper I think we should bear in mind the practical part of the whole investigation. The first thing is, people are sick; the second thing is, how are we to cure the sick? the third question is, how are we to apply the

materia medica we have for this purpose? In studying the methods given us by Hahnemann, it seems as if the suggestion made by some of the other speakers, that we must take his statements in the spirit in which they were given us, and that we must look through his eyes and see the conditions then and now, and make that interpretation of his instructions. Now, it seems as if there was one thought that had been entirely eliminated from this question, and that is the value or the significance of the provings that are to be found in our materia medica. The fact has been suggested, if nothing more, that these provings are the effects of drugs upon a human individual. I think every one of you, if you would carefully consider the question, would view this from an entirely different standpoint. Here is an individual that has a peculiar idiosyncrasy, and here is an external influence brought to bear, and the impression on this individual disturbed in this way is shown in the provings given. I believe if each and every one of us would study our materia medica from this standpoint, as we study our individual patients when we make a report of their cases, that we would find that a great deal of this inaccuracy, a great many of these things over which we stumble otherwise, would be eliminated, and we would find our materia medica so practical, so real, that there would be comparatively little question about it, and many of these things which seem to be extraneous, seem to have been thrown in by accident or by mistake, will never come to us in our practical work and require that we differentiate or eliminate them. I do believe that if we would make the reports of our provings contain all of the factors to be found in the individual provers, and let that precede the proving, and let us have somewhere the record of the conditions, the environment and everything leading up to this, that we could then have a scientific test upon which we could consider the material or the instruments used by us for the cure of the sick.

H. C. ALLEN, M.D., Chicago, Ill.: There are just one or two points that I wish to note. It has been said that a doctor is the best prover. Hahnemann says so in Section 141; but it has been noted to-night, or objected to, that a doctor should not know what he was proving; that he should take the substance unknown. If we will think for a moment, Hahnemann and his colleagues, the early provers, were treading an unknown pathway, they were proving unknown remedies. No one had any guide in any published work of symptoms, they could go nowhere for a guide. I have had a little experience in proving myself. For instance, we have no proving of Secale on the healthy; our symptoms are toxicological. In proving Melilotus there were no symptoms to be had anywhere, and every prover knew it. In proving Kali phosphoricum the same thing occurred. We had no guide anywhere. It did not injure a single prover to know that we were proving a remedy that had not hitherto been proven.

But another point: Hahnemann states that a healthy, robust person is sometimes easily affected by a small dose, and *vice versa*, and

this very frequently gives us the key to the proving—the sensibilities, the idiosyncracies of the prover; that some individuals are not affected by a massive dose, just contrary to what we expected; it is so with provers; it is so with patients.

Dr. Mitchell made the point, and it is worthy of our consideration in laying down rules for future proving, that we should use instruments, the sphygmograph probably and the stethoscope. Our oculists will make the point that we should use the ophthalmoscope. It is possible that here we may encounter a task, perhaps a danger; the majority of symptoms obtained in this way would be diagnostic, not pathogenetic; they would be of very little value in therapeutical application after we had gone to the trouble of obtaining them. And it is so in analyses, chemical, physiological, microscopical; even the effect of the cathode ray would probably be the same. It is for the purpose of diagnosis, not pathogenetic purposes. It would aid us very little, in my opinion, if we had all these applied in the highest light of science so-called, in the making of a new work on materia medica. What we need most is what Dr. Dudley very properly said to-night, the excluding of the common symptoms and the retention of the uncommon symptoms upon which Hahnemann laid so much stress. Restlessness, sleeplessness, loss of appetite, etc., Hahnemann says occur in nearly every proving and in nearly every case of sickness; consequently, they are of very little value in curing the sick. In the sifting of the symptoms of the materia medica to obtain congruence and concordance, these common symptoms are the symptoms that are nearly always verified by two, three, four or half a dozen provers; these are the symptoms that Hahnemann says are of very little value in curing the sick, and these are the ones which our modern methods would retain, and the ones on which Hahnemann and the early founders laid so much stress; the peculiar and uncommon characteristic symptoms would be the ones excluded; and I think these points should be noted in making our new materia medica under the new rules to be adopted.

A. C. COWPERTHWAITE, M.D., Chicago, Ill.: It seems to me there is very little left to be said upon this subject. It strikes me, however, that if we do away with all our present symptomatology we will not only find it a difficult thing to do, but we will then justly deserve all the criticisms that have been heaped upon Homœopathy in the past. The question now is, What are we going to do about it? There is nothing in the paper that has been read to night that would lead us to the conclusion that such was the intention, but we have a right to so assume from what we know of the work of the Baltimore Club and of others who favor the modernizing of our materia medica. The assumption is that we ought to go to work on new lines of investigation, and build up a new materia medica and wipe out all that has gone before. I certainly believe that we have no right in this advanced day of scientific research and scientific methods of investigation, to make provings under any loose rules that may have been inaugurated one hundred years ago.

I think we should verify our materia medica by rigid reprovings tested by the latest modern methods of study and research. I remember not long since looking over the reports of some physicians who had been making provings of one of our polychrests under the new methods of scientific investigation, and I was astonished to see that not a single one of the characteristics of that remedy were left. Those symptoms that have guided our fathers before us and led us to such wonderful results in our work had been wiped out and a new set of symptoms established in their place. Is that right? My own idea is that from this time on we should investigate thoroughly along the lines of modern methods, verifying the true and eliminating the chaff. But when we come to wipe out the great characteristics of our materia medica, those symptoms which have been experienced by many provers, and which have been verified again and again through many decades, I say no, we have plenty to do without that. In such a way as I have indicated we may gradually build up a practical and a better materia medica than we now have; and that which we now have is far better than any other the world has ever known.

Bushrod W. James, M.D., Philadelphia, Pa.: I have been listening with a great deal of interest to what has been said on this subject. Some things I agree with and some not altogether; but I do hold to the rules as laid down by Hahnemann, and I was thinking while this discussion was going on, that the whole matter of the proving of remedies and the formation of our materia medica was the grand modern medical building of which Hahnemann laid the foundation; he cleared away the rubbish, he dug the cellar and laid the foundation by our provings for our materia medica. We know that in building the foundation of a structure there is necessarily a great deal of rubbish lying around temporarily while the cellar is being built, loose pieces of stone and a great deal of valueless material. So the great medical reformer laid the foundation of Homœopathy and built as well as he could. Societies and physicians who have been proving remedies ever since that time, have gathered all the symptoms and knowledge of remedies they could, and have adopted the very best methods they could for the proving of these remedies in their day. They helped to build up the wall still further. That building is still in process of erection, and is not completed; neither has that building had its embellishments put upon it, and you cannot say that the materia medica of to-day, nor the provings of remedies are, as yet, anywhere near complete. Just as our former provers have helped to found and erect that building, so we, in the light of the scientific research of to-day, are to go on and add to the structure, and probably it will be a generation or two yet before it is finished so that Homœopathic practitioners can say that we now have a quite well-perfected materia medica, and one that we can surely rely upon in all its details and symptoms.

Now, I do not take issue with Hahnemann or any other Homœopathic physician who has good rules to govern him in this respect,

and that go as far as the light of the day leads, and this idea that we are to build up a new materia medica I do not agree with. I believe we will have to go on and add to the materia medica that we have; and if the microscope and the opthalmoscope and the sphygmograph and the Roentgen ray illumination and the various other instruments and procedures that we may use to throw light upon this subject come in to help us as to the pathology by the symptoms that are produced, all well and good. Let such all be recorded, and let those symptoms thus ascertained show how far these modern provings, these additional ones, will modify or wipe out those that were useless and are found to be valueless. I cannot agree with Dr. Allen that we do not need the use of these instruments in making provings. Now, were he to take the ophthalmoscope, and if he were proving a remedy which produces changes in the retina or in the vitreous body, or in the lens or the choroid, or, in fact, in any interior structure of the eye, then in proving this remedy he could find that certain changes were positively thus produced, and of certain definite character, such as a papillitis or a retinitis or an iritis or an alteration anywhere in the eye; and these being noted down as the special action and ophthalmoscopic symptoms of that remedy, and several specialist observers having also seen such proving-symptoms as produced by this definite remedy, it certainly would be a very valuable class of indications for any one practicing in that special line of study or work; those symptoms would be very useful, and not only that, but it exhibits the pathology of the proven drug somewhat. This is the result from only one instrument; and so I believe that all these instruments of precision and all these newer methods should be so used that we can add such researches to the materia medica. We need all the light which the present day can throw upon our provings. Therefore, let us all work together, Hahnemann for the past, and those provers and societies that have worked along from that time until the present day, and we of the present day, to complete and adorn this grand structure, the Homœopathic materia medica.

I remember as a student that I did a certain amount of drug proving. Prof. Alvin E. Small picked out those of us in the classes who were helping to prove, and he gave us the remedies to prove. He laid down Hahnemann's rules in advance. He did not give the students a knowledge of the remedy. One set of provers were known as No. 1, another set as No. 2, and another set as No. 3, and we had no opportunity of comparing our symptoms. They were handed to him as we received them, and he sifted them out and laid out the provings of the remedy as handed into him by a dozen or twenty-five or more students. He first stated to us that we were to endeavor to follow the methods of Hahnemann and adhere to his rules, and by this method we brought out some very acceptable proven remedies. Dr. D. Cowley was the Secretary of the American Provers' Union to which he belonged, and he knew that the doctor's time was occupied for years in sifting out symptoms of remedies and bringing them altogether from the different observers or members

of this old society. Their method was possibly similar to that of Hahnemann's; the method of our recent societies, I believe, can be established and carried out on the particular lines referred to, and he thought we should go right on making this building a perfect one.

THE CHAIRMAN: This concludes the list of speakers that have been selected and who have volunteered, and the meeting is now opened for a short time for discussion.

T. P. WILSON, M.D., Cleveland, Ohio: I rise because I feel the necessity of making a little personal explanation. My remarks today may have been generally misunderstood, as they were misunderstood by one reporter. He understood me to say that the law of similars amounted to nothing. On the contrary, I told him there was no man in the convention that was a more thorough believer in *similia similibus curentur* than I, but I do object to certain methods in the application of the law; it was merely the condition that I objected to. I was also suspected of being one of those who sneer at science. He asked me if I had no opinion of science, I said, "My dear sir, if you can find anybody else that is more devoted than myself I will bow down before him."

THE CHAIRMAN: The question is on the proving of drugs.

DR. WILSON: I am making a personal explanation now. I want to defend my good name. I was only speaking on a question of privilege. I do not want you to think wrongly of what I have said, but I want to say that I object to this whole proceeding of these men talking about science; they don't know what they are talking about; it is a contradiction of terms; it is a degradation of true science in the way they apply it to finding out how much urine a man has or what the amount of uric acid is in it. If that is the way that science is to be understood I object to such a degradation of science. Science can help us through a reputable laboratory. The question is what will a drug do when it is proven on a healthy person. To say we can snatch it out of the direct line in which Hahnemann pursued it and take it over to a one-horse laboratory or to a United States laboratory and put it into the weights and crucibles, I say that is a degradation of science.

E. H. PRATT, M.D., Chicago, Ill.: I want to ask this simple question: If you should take a healthy person and subject him to inspection by means of instruments, using the ophthalmoscope and the laryngoscope and the stethoscope and the various speculi, with daily inspection, including the sphygmograph, would it deduce any symptoms, the process itself?

A MEMBER: Certainly it would.

DR. PRATT: If it would, are those symptoms to be recorded in drug proving or not?

THE CHAIRMAN: Dr. Price will reply at the close of this discussion.

T. C. DUNCAN, M.D., Chicago, Ill.: There is one point I think there are two sides to, and that is the provers not knowing what they are doing. I have experimented both ways, and some provers, if they do not know, will magnify and anticipate and put down symptoms that may be imaginary. There are other provers who, when they do know, are persistently wilful, and you know that that means that they will not record any symptoms of any kind.

Another point I think should be made in the rule for provers, and that is the description of the prover should be made as to temperament, age, etc. I think the demand of to-day is that the provings shall be equal to the modern scientific methods of disease diagnosis as we make them at the bedside. Most of the provings that come down to us are recognized as fragmentary. Very few remedies, I think, it will be admitted by the most thorough students of materia medica, and very few of the pathogeneses, are complete, perfect; they are lacking. The oculist will admit there are symptoms lacking. The gynæcologists will admit that there are symptoms lacking; men who give attention to the chest will tell you there are symptoms lacking to complete the picture—possibly symptoms that are not put down. As I said before, many of the provings are fragmentary. I made provings myself, thirty odd years ago, that I know were of necessity fragmentary. Our rules for provings were copied after the Philadelphia rules, and still many of the provers could only give fragmentary effects.

Last winter I tried to prove Kola on a class of students of fifty in the National. I wanted to know whether Kola would take the place of food, and the result was remarkable: Some of the students reported no symptoms at all, and others reported a long list of symptoms, but I did get this fact from it, that it does produce something that you can specify under the head of autophagus. That experiment will be given to the profession later.

E. R. SNADER, M.D., Philadelphia, Pa.: It seems to be fully and definitely settled, so far as I can gather, that no one is entirely satisfied with Hahnemann's method of proving drugs; I haven't heard a single complete approbation of it. I am satisfied that the feeling is abroad that there is room for improvement in the method of proving drugs, and individually I am certainly of the opinion that the older method can be improved upon, and I think that the only question that ought to occupy our minds is not as to whether Hahnemann would have approved of it or not, but whether we have learned anything since his time. I am a member of a new proving society in the city of Philadelphia, composed of some twenty specialists and general practitioners. We propose to prove a drug in a new way, and I tell you the method to give you an idea of what I individually conceive to be the method of proving drugs. All the specialists examine organs they are specially interested in. (In answer to Dr.

Pratt's query whether some symptoms might not occur as the result of handling organs, I must admit that such symptoms might appear, but if those symptoms were unchanged in the proving there would be no greater chance of error than we now have. We have nothing certain in this world, but we can approximate to it by modern methods.) Before a proving is made at all every man to take part in it is examined by each specialist separately, and a complete health record is taken, so that we know him from head to foot, and he is then given a drug in varying doses until symptoms are produced, following that with the drug so far as we think the individual can stand it. We further experiment upon animals, giving them doses in varying degrees, and we find just exactly what tissue changes have occurred and determine the meaning of certain subjective symptoms in man. During the progress of this proving not only are the symptoms noted, but continual observations are made not only with instruments of precision, but of conditions that are not represented by subjective state, and, as was intimated by Dr. James to-night, information of that sort is of the most vital importance in effecting a cure. Microscopical, bacteriological, urinary analyses of the most scientific sort are made also. We contend that after we have all the subjective symptoms, and after we have our information from the experiments on animals, we will have a more thorough drug picture than we possibly could gather from Hahnemann's methods of drug experiments, and that now is the only question that will concern us. It has been the purpose of that club to present a paper at this meeting. Whether Dr. Moore will be able to bring it I am unable to say; but certainly, gentleman, I think you will get, under such a system of proving (with a board of examiners of those symptoms), a grander conception of the full power of the drugs than is possible under the old method.

A. L. Monroe, M.D., Louisville, Ky.: I just want to say a word about a point that I don't think has been covered this evening. Our proving has got to be limited largely to functional symptoms and a very respectable part of our materia medica is composed of clinical symptoms. We know that in some cases, especially since Dr. Mitchell has been investigating the subject and writing on it, Arsenic cures cancers, but nobody ever heard of Arsenic causing a cancer. We push our symptoms only to the limit of pathological change. Our symptoms upon which we prescribe for organic heart trouble, for Bright's disease, for diseases of that nature, are bound to be clinical symptoms, or they are bound to be discovered through experiments upon animals, and experiments upon animals have several drawbacks, one of which is the difference in the anatomy and physiology of the animal. Another is the fact that the animal has not the human mind, and I believe, as I believe most of us do, that mental symptoms should take precedence over physical symptoms; so that as I say the provings which we make form quite a large per cent. of our materia medica, but not all, and it must be that some time in the future we will be able to discover some means of obtain-

ing symptoms through experiments upon animals, or in some other way, that are now entirely gotten through clinical experience.

J. S. MITCHELL, M.D., Chicago, Ill.: I trust that this Materia Medica Conference will not follow the example of King Canute, when he said to the waves: "Thus far shalt thou go and no further, and here shall thy proud waves be stayed." I hope that it will not go out to the world that this Materia Medica Conference is not in favor of further progress. The sphygmograph shows a certain condition of the tidal wave. We give a certain number of persons Digitalis, and we find that the tidal wave universally is increased. Where regurgitation exists, give Digitalis and you will relieve it.

The Chairman, T. F. ALLEN, M.D., New York, N. Y.: The chair would very much like to speak a few minutes. I have something to tell you. It has been difficult for me to keep quiet, because I think I foresee in the near future an entire change of attitude toward our symptomatology. We are going back to the method of symptomatology adopted by Hahnemann in the latter years of his life. It doesn't matter much whether your symptoms are congruous or incongruous, so far as pathological changes go. It does not matter much whether there is one prover or twenty. I will even say this: It will not matter very much whether those symptoms are observed upon healthy beings or upon sick people. I venture to say that we have not the means in our possession of getting at the totality of symptoms. There isn't an index worthy of the name that is valuable from this point of view. I want to demonstrate to this Institute before it closes how an apparently incurable case was cured by the action of the exact similimum, which never could have been cured in any other way; how every prescription of a Homœopathic physician may be a rifle shot and hit the mark. A Homœopathic physician of New York said to me within three weeks (he has lately come over to us): "I have come to the conclusion that it doesn't matter much what sort of dose you give, it cures the patient; it cures with such accuracy, this analytical method of symptomatology, that it is going to revolutionize our methods in therapeutics." I think you will all in the near future come to it. For years I have been trying to devise some way of making Homœopathy practical and satisfactory, and I have had to go back to the old method as the only possible solution of it. I have worked over it night and day, and I think I have got on the track of the method. It consists of analyzing each symptom, of getting at the locality, the sensation and the condition; there are three factors in every patient, and when we get those elements to correspond in the patient and in the proving, it doesn't matter in what sort of a prover they occur, or from what sort of disease they come. The symptoms consist of three elements in the patient and in the prover, and those we must have or the symptom is incomplete; it must have a locality, a sensation or a function and a condition of aggravation or amelioration; those three combined only constitute a perfect symptom. You may

not get those in any one symptom from any one prover; you may get the sensation in one and the condition in another; but you will find those elements scattered all through your proving, and you go through your materia medica and examine every symptom and note those elements, and you may carry all the clinical experience from Hahnemann's time to this in your pocket. That is the result of my study for the past many years; it is going back to first principles.

During Hahnemann's life his materia medica was classified so that his symptoms could be found readily. There were twelve volumes of symptoms arranged alphabetically, and Hahnemann threw those to one side to take Bœnninghausen's method. Now, this bears on the point of the discussion of our materia medica. A single symptom may turn the scale in favor of one condition or one sensation or one locality, and I should strenuously oppose the attempt of any man or set of provers to discard any proving which consisted only of symptoms from one individual. We have ages ahead of us, generations, and we must build slowly, and an observation of that kind must be kept, and the next generation will add to it, and perhaps verify it. You can not prescribe for diphtheria by selecting a drug that would produce it. If we knew every drug in the world that was able to produce diphtheria, you could not select one of them and prescribe for the patient. You must get at the peculiarities of the individual, and that may only be found by putting together the elements of the symptoms; now and then some striking, peculiar symptoms, but as a rule you must follow Hahnemann's rule of totality: *In hoc signo vinces.*

I object to methods which would discard all earlier and peculiar observations and give us only a generic statement of a drug. The Baltimore system can not live and do that, and I see no way but to make the encyclopædia not ten volumes, but one hundred; I see no other way but to make monographs of drugs, and what I want is not less materia medica, but more; I want to know more about every drug in it; you can not give me too much. Do not let us be deceived in this matter. Some of us feel we do not want to get out of our materia medica the chaff through the loss of the wheat. Get all the observations, and when the complete capability of the drug is brought out then will be the time to do something with it; but that won't be in your day nor mine, nor in this century. Our work must be well done, as good, honest work; there is no work of a scientific description but is a crown of gold, not only for to-day, but forever; a fact is always a fact.

DR. PRICE: I might say that I want to disclaim any attempt to throw discredit on Hahnemann's scientific abilities, or in any way whatever to discredit him as a laborer in the vineyard of truth and the field of science generally. I don't think any of you can have a higher opinion than I have of his general abilities, not only of his general abilities, but of his special abilities as a worker in materia medica and symptomatology. The reason why we have not done more is that we have not carried out his ideas, his spirit. Dr.

Gatchell, I think, said if Hahnemann was with us now he would be a leader amongst us, *the* leader in the direction of scientific materia medica and scientific work in behalf of pathogenetic materia medica; and I want to emphasize that point. We ought simply to go on with his work.

I agree with a number that have spoken to-night that there is chaff in our materia medica, as Dr. Allen has expressed it, and our object should be to get rid of that chaff if we can differentiate it.

I think Dr. Snader's explanation of the method in which the Philadelphia club is going to work is the correct method; I believe it is Homœopathic in its conception. It is in keeping with the rules adopted last year by the American Materia Medica Association at Newport; I might think that Dr. Snader had stolen them from that organization; they are identical with the rules suggested then and adopted by the association.

Now, so far as the work of the Investigation Club is concerned, to which reference has been made several times, I think that work has been misunderstood. The object of the club was to do just exactly what Dr. Allen says we ought to do, get rid of the chaff. We have not annihilated any clinical symptom; we have simply let the individual isolated symptoms stand as they are in the records of the provers, and given the symptoms that were corroborated by two or more experimenters, and you see in the forty-seven drugs which have been studied and published by the club the necessity of a proper reproving of our drugs.

LAMSON ALLEN, M.D., Worcester, Mass.: In accordance with the spirit of the remarks to-night I wish to offer the following resolution, and move its adoption at this time:

Resolved, That the Materia Medica Conference recommend to the American Institute of Homœopathy that it instruct the Committee of this Materia Medica Conference to carefully prepare an accurate and scientific plan by which future provings of the drugs of our materia medica shall be conducted. I move its adoption. (Seconded.)

THE CHAIRMAN: Discussion is in order.

PEMBERTON DUDLEY, M.D. Philadelphia, Pa.: Before you adopt that I want to say that I think it is still more previous than the resolution that we postponed after this afternoon conference. When this Materia Medica Conference adjourned the statement was included in the suggestion that before we procceed to the consideration or reconsideration of our materia medica there are a dozen scientific questions to be discussed and settled, and as that report was being read somebody from the audience cried out: "Yes, a hundred." Now, we have not settled the dozen yet. Some will say we have not settled one. This Materia Medica Conference is suggested as being the beginning of a series of conferences for the purpose of considering these questions, and if we get ready

to go into that work systematically and regularly any time within five years I shall be satisfied. I do not believe we will. This is only the beginning of this work of studying, suggesting and comparing notes. We ought somehow to get together on some of these questions before we do anything else. Otherwise we will have one set of men in Baltimore working on one line, one in Boston working on another line, and so on. Let us get together, and in order to get together let us find out what our views are, what our feelings are. I think any of us who have been present at these meetings have learned something to-day; but we have not acquired complete knowledge on these points as yet, and I should be very sorry to see anything like a beginning made yet in the work of materia medica revision; I do not think we are ready for it at all. You will recall, Mr. Chairman, that there were a good many questions suggested to this conference committee to be considered. We have only considered two of them yet. What are we to do about the others? I hope the gentleman will withdraw his resolution and hold it over until about 1906.

H. C. ALLEN, M.D., Chicago, Ill.: I want to emphasize what Dr. Dudley has said, and also what Dr. Price has said on the work of the Baltimore club. He thinks they are right in the sifting of symptoms. If not, he would like to be set right. I have examined the work of the Baltimore club, and my opinion is they are doing it in just the way not laid down by Hahnemann. Section 153 of the *Organon*, that wonderful masterpiece of Hahnemann, gives us identically what we want in our materia medica of the future. It gives us the three or four conditions enumerated by Dr. Allen, and it gives us also a rule by which to separate the chaff from the wheat. The whole thing is wrapped up in a few lines. Here we have a committee of drug provers that we have been carrying for ten or more years, and I would like to ask any member of the Institute to point to a single proving put into our TRANSACTIONS made by our Committee on Drug Proving.

THE CHAIRMAN: Allow me to state that the Institute, on account of the mass of provings, resolved to have a committee appointed. This committee has had no work.

DR. H. C. ALLEN: In view of that explanation, I move that it be laid on the table.

THE CHAIRMAN: You have heard the resolution that this resolution of Dr. Lamson Allen's be laid on the table until the close of this conference. It was definitely stated at the close of the last session of the conference that it would be brought up. (Carried.)

Adjourned to June 17, at 10 A.M.

THIRD SESSION.

The third session of the Materia Medica Conference was called to order at 10 A.M., of June 17, 1896, in the auditorium of Harmonie Hall, by the Chairman, Dr. T. F. Allen, of New York. The essayist, Dr. William Boericke, of San Francisco, Cal., being absent, his essay was read by Dr. T. Y. Kinne, of Paterson, N. J., as follows:

In the Search for the Similimum Shall We Endorse Section 18 of the Organon, Which Says That the Totality of the Symptoms Must be the Sole Indication to Direct Us in the Choice of a Remedy.

By Wm. Boericke, M.D., San Francisco, Cal.

Hahnemann's teaching on this point is expressed in full in Section 18 of the *Organon*, as follows:

"It is then unquestionably true that, besides the totality of symptoms, it is impossible to discover any other manifestation by which diseases could express their need of relief. Hence it undeniably follows, that the totality of symptoms observed in each individual case of disease, can be the *only indication* to guide us in the selection of a remedy."

And again in Section 70 he says:

"All that a physician may regard as curable in diseases, consists entirely in the complaints of the patient and the morbid changes of his health perceptible to the senses; that is to say, it consists entirely in the totality of symptoms through which the disease expresses its demand for the appropriate remedy; while on the other hand, every fictitious or obscure, internal cause and condition, or imaginary, material, morbific matter are not objects of treatment."

In order to answer this question intelligently, it is necessary to define more in detail the idea of totality of symptoms as taught by Hahnemann and as understood by his more thoughtful disciples. In order to appreciate the thoroughness and perfect adaptation of Hahnemann's means to the end to be attained, and, moreover, the

vast superiority of his clinical investigation over anything ever offered before, we ought to study Sections 83 to 100 of the *Organon*. At one stroke he takes away from all pathological theories their claim to be a basis of therapeutics, and elevates in their stead the phenomena of disease—its clinical aspect.

We are taught here that Hahnemann's totality of symptoms consists of all the symptomatic facts necessary to determine the curative remedy. The totality includes every change of state of mind, every changed condition of body, thus every deviation from health. It includes every subjective symptom that the patient can describe accurately enough to be interpreted by the physician, and every objective symptom the physician can discover by his senses aided by all diagnostic instruments for examination. The characteristic of such a totality is evidently its *capacity of expansion* and development commensurate with the progress of medical knowledge in every direction. Hence the discoverable totality to-day is a more complete thing than it could possibly have been at Hahnemann's time, before the days of physical examinations, of chemical and microscopical analyses, etc. While this is true theoretically, it is as yet of little practical value, because our knowledge of pure drug pathogenesis is not correspondingly complete, and still awaits the pharmacological investigator of the future, who will apply to the department of provings similar scientific methods made use of in the clinical investigation of disease, thereby extending, and, at the same time, precisionizing our symptomatology. Until then, in the treatment of most cases, the *true similimum* must remain the ideal goal, to be striven for, but rarely reached. The similimum is indeed a realizable ideal, but as a rule, the prescriber must be satisfied with the selection of a mere *similar* instead. Fortunately, the very conception of similarity is one of *relative* nearness and does not express an *absolute* relation; it is comparative always; a drug is *more or less* similar, and I think the *similimum* to a given case is rather a rarer prescription than some of us believe.

Moreover, the experience and practice of the school teaches that any one of several more or less Homœopathic remedies may be used with alike good results; that is, may be sufficiently similar to bring about nature's reaction. If it were not true that such a practical realization of similarity is always within the reach of the Homœopathist, and that it yielded good curative results, albeit not so prompt as would result from the administration of the similimum, our practice would be largely useless.

It seems to me that this is an important point in answering our question, namely, that a curative response is obtained from a remedy more or less similar, one falling short of the dignity of the similimum, and yet not thereby removed from capacity of useful curative service.

Again, Hahnemann's totality is not a mere enumeration of the symptoms, but rather an organized and systematized arrangement of them according to certain definite principles of their intrinsic value, and hence of rank. This totality of number, of quantity, must undergo a crystallizing process and become organized to make it available and useful. The chaotic mass of symptoms will thus assume a symptomatic human form ensouled with the distinctive characteristic morbid life of the individual patient, who thus becomes the basis and object of treatment rather than any pathological theory or disease process.

In order to arrive at this a winnowing process must be instituted by eliminating the *general* symptoms and interpreting and arranging the rest according to their relative value, and thus individualize the case under treatment. In Section 83, *Organon*, Hahnemann says:

"Individualization in the investigation of a case of disease demands, on the part of the physician, principally unbiassed judgment and sound senses, attentive observation and fidelity in noting down the image of the disease."

This is recognized to be the most difficult part of the Homœopathic prescriber's work, and it is here where trained observation is the faculty most in demand. As our delightful naturalist, Burroughs, says:

"To see things in detail and enumerate them is not observation, but to see the significant things, to seize the quick movement and gesture, to disentangle the threads of relation, to know the nerves that thrill from the nerves that bind, to distinguish the typical and vital from the commonplace and mechanical, that is to be an observer." Observation is thus seen to be selective and detective.

Hahnemann's first rule in arranging the totality is that the *characteristic* symptoms of the patient must be similar to the *characteristics* of the remedy.

Section 153, *Organon*, says:

"The more prominent, uncommon and peculiar features of the case are especially, and almost exclusively, considered and noted, for *these, in particular, should bear the closest similitude to the symptoms of the desired medicine*, if that is to accomplish the cure."

By this individualization, then, we eliminate the general symptoms common to similar pathological conditions and present to view the individual patient, as the pathological process affects *him*. The morbid forces of the disease unite themselves more or less with the inherent weaknesses and disease tendencies hereditary or acquired of the individual, and give us his peculiar, and therefore characteristic, symptoms. But we must not expect to find these characteristic symptoms always expressed in the very words of the provings. We must learn to interpret them by the study of the expressions of the different provers, and learn to eliminate the narrow boundary line of the words; for these are, after all, but imperfect pictures of the state they try to describe. In this way we may get at the real genius of the drug and discover the characteristics that we need in making up our totality.

The Hahnemannian similarity differs considerably, as is evident, from the pathological similarity, which consists in matching diseased conditions and ultimate organic lesions by similar organic changes produced by drugs. The defect of the pathological similarity is its incompleteness; it presents but a partial view, and is, therefore, not a complete totality, and thus not a reliable guide to the selection of the similimum. Add to it the patient's peculiar, and hence characteristic, symptoms, and we obtain the Hahnemannian totality.

Practical experience in Homœopathic practice has given some further distinctions in the value of symptoms according to rank for purposes of accurate prescribing. And foremost as a means in discriminating between symptoms is a knowledge of pathology. This interprets the symptomatology for us and distinguishes between an external apparent Homœopathicity and a truer, more real Homœopathic relationship, one in harmony with the whole process of disease and character and type of the morbid manifestations. It distinguishes between primary and reflex symptoms and secondary modifications of health; it gives to each symptom its rank as seen not when considered alone, but in its relation to all the rest. It distinguishes between the absolute symptoms of the disease essential for diagnosis and the peculiar symptoms of the patient essential for the selection of the remedy, and while the former *by themselves* are unimportant for purposes of prescribing, they become valuable guiding symptoms and assume *front rank* when attended by any modalities or concomitants. Indeed, symptoms that affect the general organism are of the greatest value,

hence in our estimation of the totality the modalities assume the most important place. For purposes of prescribing they correspond in importance and occupy a similar place as do the pathognomonic symptoms for purposes of diagnosis.

In the arrangement of the totality the *mental symptoms* of the patient, when at all marked, are most important in determining the choice of the remedy, and they are even more important prognostically, improvement being often foreshadowed in the mental state before any marked change is seen in the physical condition.

As a further aid in determining what constitutes the essential factors in a given totality, the immediate cause of the patient's illness or the exciting factor, if ascertainable, will be of great importance in the selection of the remedy.

This Hahnemann also teaches in Section 5 of the *Organon:* "The physician in curing derives assistance from the knowledge of facts concerning the most *probable cause* of acute disease as well as from the most significant points in the entire history of a case of chronic disease; aided by such knowledge he is enabled to discover the *primary cause* of the latter, dependent mostly on a chronic miasm."

This gives, on the one hand, an important place to the *first* or oldest symptoms and to causes, however remote; and, on the other, it elevates to commanding importance signs of constitutional defects, the underlying psoric and other dyscrasic conditions. Unquestionably, such frequently modify and relegate to comparative insignificance symptoms of acute disorder, and often favor the selection of deep-acting antipsoric remedies even in acute diseases. Such selection would be justified by its Homœopathic relationship, not only to the outward totality of symptoms, but also because of its correspondence to the underlying, though possibly latent, dyscrasic tendency.

And again, the very *latest* symptoms that may have appeared deserve precedence in determining the choice of the remedy, especially in acute diseases, while in chronic affections, when they are mere secondary effects of pathological lesion, they are not of the same guiding importance. Here the early, primary or prodromal symptoms which determined the development of the organic lesion would be far more important guides to the selection of the curative remedy, while the removal of the latest symptoms would mostly be palliative only. Take the dropsical manifestations of organic kidney disease. These may, indeed, be the latest symptoms of the case, but comparatively unimportant in the selection of the similimum,

while for purposes of mere palliation they are paramount, and may be our sole guide.

Other methods of arriving at the curative remedy have been advocated from time to time, and whatever success their application has met with can only be explained by the readiness with which a *similar* remedy responds, even if it is not the similimum in a given case. Chief among these short cuts for the selection of the remedy are the keynote system, the pathological basis and the impressionist method, all of which are familiar to students of Homœopathy. While acknowledging a legitimate place at times for all of them, the constant dependence on any of them as a basis for selecting the remedy must be found delusive. They are all deficient in meeting the full requirements of the case.

The keynote system is reprehensible practice, tending to undue elevation of certain minor symptoms, both in the patient and remedy, and disregarding the more careful study or rational interpretation of the case and of the remedy as a whole. While it often yields brilliant results, I am afraid too constant reliance upon it will lead to permanent mediocrity, if not to retrogression in the study of materia medica, and it is certainly unable to survive the application of modern scientific methods.

The defects of the pathological basis is, as stated before, its incompleteness, and since it is but a partial picture of the totality of symptoms, it is therefore an unreliable basis for accuracy in prescribing. But it seems to me it is of the greatest possible use in suggesting a certain *group* of remedies that are pathologically similar, from among which the *similimum* can be selected, if one is found having, in addition, the characteristics and modalities of the patient.

The impressionist or intuitive method pointed out by Prof. T. F. Allen, is an alluring one, but wholly out of place with the beginner or, indeed, average practitioner. To be sure, the genuine student of materia medica, if he is at the same time a practitioner of much experience and gifted with a scientific use of the imagination, will sooner or later become possessed of an intuitive understanding of the genius of a drug that may indeed be as accurate in its supplemental knowledge of the possibilities of drug usefulness as the recorded pathogenesis, but such is given only to the gifted few, and is practically beyond the reach of the ordinary practitioner, to whom the method is dangerous, opening the door to all sorts of vagaries about drug-action. At all events, it can never be hoped for except by the discipline of close study of the actual provings and discriminating observation at the bedside.

Nothing remains for us, then, but the Hahnemannian totality.

A totality of symptoms so arranged is unquestionably the true basis for a prescription for every chronic disease certainly, and every other form of disease that can be modified by Homœopathic medicine. And even in incurable cases such a characteristic totality will point out the best palliative remedies; for the Homœopathic remedy, even if not curative, is often strikingly palliative, and thus greatly superior to antipathic palliation with its inseparable untoward drug-effects.

The answer to our question, then, is an unhesitating affirmative. We cannot hope to attain the highest aim of healing, that is, the speedy, gentle and permanent restitution to health in the shortest, most reliable and safest manner, according to clearly intelligible reasons—*Organon*, Section 2—except by following out Hahnemann's directions in regard to the totality of symptoms, and interpreting this according to the rules briefly given, and which, thus interpreted, has been a guiding light for nearly a century of applied Homœopathy.

Discussion.

H. C. Allen, M.D., Chicago, Ill.: From 1796, when Hahnemann published his celebrated *Essay on a New Principle for Ascertaining the Curative Powers of Drugs*, to 1833, when the fifth edition of the *Organon* appeared, one of the ablest and most skilful Allopathic physicians of Europe, and one of the most accurate observers the medical world has ever known, was patiently elaborating rules governing the practical application of the law of similars in the cure of the sick. These rules have withstood the test at the bedside in both acute and chronic diseases, and thus far have not been improved. The chief rule is that "the totality of the symptoms is the sole indication to direct us in the choice of a remedy." This he considered of such importance that he devoted several sections to its elaboration. The following will suffice:

Organon, § 7: In a disease from which no manifest exciting or maintaining cause has to be removed, we can perceive nothing but the morbid symptoms, it must be the symptoms alone by which the disease demands and points to the remedy suited to relieve it; and, moreover, the totality of these, its symptoms, *of this outwardly reflected picture of the internal disease—that is, of the affection of the vital force*—must be the sole means whereby the disease can make known what remedy it requires—the only thing that can determine the choice of the most appropriate remedy; in a word, the totality of the symptoms must be the principal, indeed the only, thing the physician has to take note of in every case of disease, and to remove by means of his art in order that it shall be cured and transformed into health.

Organon, § 8: It is not conceivable, nor can it be proved by any experience in the world, that, after the removal of the symptoms of the disease and of the entire collection of the perceptible phenomena, there should or could remain anything else besides health, or that the morbid alteration in the interior could remain uneradicated.

Organon, § 18: From this indubitable truth, that besides the totality of symptoms nothing can by any means be discovered in diseases wherewith they could express their need of aid, it follows undeniably that the sum of all the symptoms in each individual case of disease must be *the sole indication*—the sole guide to direct us in the choice of a remedy.

Organon, § 70: That everything of a really morbid character, and which ought to be cured, that the physician can discover in diseases, consists solely of the sufferings of the patient, and the sensible alterations in his health, in a word, solely of the totality of the symptoms by means of which the disease demands the medicine requisite for its relief; whilst, on the other hand, every internal cause attributed to it, every occult quality or imaginary morbific principle, is nothing but an idle dream.

Thus Hahnemann, in logic and argument unequalled for force and clearness, and in manner as definite as language can express it, maintains that THE TOTALITY OF THE SYMPTOMS must be the sole guide in the choice of the remedy.

While in the main we commend the paper, we must take issue with the essayist when he says: "Hahnemann's totality to-day is a much more complete thing than it could possibly have been at his time, before the days of physical examinations, of chemical and microscopical analyses." This is a very general, yet utterly erroneous, belief, and the most fallacious argument in the essay.

In every case of sickness, every diseased condition the physician is called upon to treat, there are two important and necessary, yet entirely distinct, kinds of symptoms with which he has to deal, *the diagnostic* and *the individual or therapeutic*. The former, by means of which we classify and name diseases as we name the streets in a city, and for similar purposes, the Homœopathic physician, in common with all other schools of medicine, employs in diagnosis. These symptoms are as indispensable to him and to his professional standing as they are to all medical men; but they are not the symptoms on which he should or can select the similimum. Since the days of Hahnemann—even in the last decade—the wonderful advances which have been made in analyses, chemical, microscopical, physiological, electrical, have revolutionized diagnosis and surgery; in fact, almost placed them among the exact sciences, and no one can appreciate their value more than the Homœopathic physician.

But the therapeutic symptoms, those which belong to the patient and serve to individualize each case of sickness, are peculiarly the property of the Homœopath, for his is the only school of medicine that pretends to treat the patient. He does not, or should not, use the diagnostic symptoms for therapeutic purposes. He should

not, like members of other schools of medicine, treat his diagnosis, for the totality of symptoms as defined by Hahnemann is never found in this class. The modern advances in physical examinations, chemical and microscopical analyses, even the wonders of the cathode ray, do not in the least change the factors in the therapeutic problem of Hahnemann. The individuality of a sick patient or the individuality of a pathogenesis of a remedy is the same to-day as it was in the days of Hahnemann, and being governed by natural law, will remain the same forever. A law of nature does not change with every new fad in medicine or every shifting scene in human progress. If it did, Homœopathy would be robbed of its glory and the *law* of similarity would be reduced to a *rule* of practice.

So-called pure drug pathogenesy, aided by "chemical, microscopical, physiological and urinary analyses," would be comparatively but a small addition to our therapeutic knowledge, for they generalize instead of individualize; they belong to diagnosis, not to therapeutics. The pathogenesis of Picric acid had the benefit of the laboratory while the provings were being made, yet in what particular does it excel Pulsatilla, Nux vomica or other polychrests of the *Materia Medica Pura?*

No! Were Hahnemann here to-day writing a new edition of the *Organon*, Sections 7, 8, 18, 70, etc., reinforced by broader knowledge and confirmed by a more extended clinical experience, would be repeated in all their original force. Euclid's *Elements of Geometry* remain practically the same to-day as when they were written over 2000 years ago, and the proposition of Hahnemann that THE TOTALITY OF THE SYMPTOMS is the SOLE guide for the selection of the remedy will remain axiomatic as long as natural law governs the physical world. In reply to Ptolemy, Euclid said: "There is no royal road to geometry." So Hahnemann says to his followers: "There is no successful short cut to the similimum."

What constitutes the totality?

Hahnemann defines the totality in:

Organon, § 153: In this search for a Homœopathic specific remedy, that is to say, in this comparison of the collective symptoms of the natural disease with the lists of symptoms of known medicines, in order to find among them an artificial morbific agent corresponding by similarity to the disease to be cured, the *more striking, singular, uncommon and peculiar* (characteristic) signs and symptoms of the case of disease are chiefly and almost solely to be kept in view, for it is *more particularly these that very similar ones in the list of symptoms of the selected medicine must correspond to*, in order to constitute it the most suitable for effecting the cure. The more general and undefined symptoms: loss of appetite, headache, debility, restless sleep, discomfort, etc., demand but little attention when of that vague and indefinite character, if they cannot be more accurately described, as symptoms of such a general nature are observed in almost every disease and from almost every drug.

Where are the characteristics found?

Here is the key by which Hahnemann has enabled his followers to unlock the mystery of a successful selection of the similimum, based on the totality of the symptoms. As the essayist affirms, "it is not a totality of mere numbers—of quantity—but a symptomatic human form, ensouled with a distinctive characteristic individual life, a totality of quality."

Hahnemann insists upon a record of the case as the first and most important step in obtaining the totality. Then the quality of the symptoms is the next step, for "the more *prominent, uncommon* and *peculiar* features of the case are to be *especially and almost exclusively* considered and noted, for *these in particular should bear the closest similitude to the symptoms of the selected medicine.*" Nearly every case of sickness has something about it that is *peculiar* and *uncommon*—something individual—and a remedy is to be selected which also has a *similar peculiarity* as one of its characteristic features; hence these characteristic or individual features of every pathogenesis should especially be studied.

As a statement of fact, I regret to say I agree with the essayist when he asserts: "The experience and practice of the school teaches that any one of several more or less Homœopathic remedies may be used with alike good results, *i.e.*, may be sufficiently Homœopathic to bring about nature's reaction." This reprehensible practice of substituting "a more or less Homœopathic remedy," or of alternating two or more remedies, or mixing several remedies, cannot lay any claims to be based on the totality of symptoms as taught by Hahnemann. It cannot be successfully maintained that Hahnemann ever taught or even suggested this *quasi* doctrine of substitution for the similimum. While in Sections 172–184 he shows how to take and treat patients where "the symptoms are too few, one-sided or local diseases," and these he affirms are "often due to the observer's want of discernment," he does not fully discover the symptoms actually present, for he affirms:

Organon, § 272: In no case is it requisite to administer more than *one single simple* medicinal substance at one time.

With the exception of a few remedies from the toxic symptoms of which we have obtained pathological lesions, there is not now, and never can be in the future, a pathological similia. It is an impossibility in the nature of the problem to construct a scientific fabric on the shifting sands of pathology. Have not our medical brethren of other schools demonstrated the glaring defects of the so-called physiological action of remedies in their experiments on animals? No! The conclusion of the essayist is the only legitimate conclusion, viz.: "Nothing remains for us but the Hahnemannian totality of symptoms as the only true basis for the selection of the remedy.

"*There is but one right way: To seek the truth and steadily to pursue it.*"

W. J. HAWKES, M.D., Chicago, Ill.: The paper in the main, and its general answer to the question, is correct, and has my hearty ap-

proval. To my mind there can be no other answer from an intelligent and conscientious student of Homœopathic medicine. In considering this, as in considering every other question open for discussion, a correct definition of terms is essential as a starting point. The term to be defined here is "totality of symptoms." My understanding is that it includes every fact which throws light upon the cause of the morbid condition of the patient, both predisposing and accidental (etiology), the nature of this condition (pathology) and the existing morbid phenomena—objective and subjective—by which it is expressed (symptomatology).

The first maxim in medicine is "remove the cause," but, unless we consider all these factors, we shall not be prepared to obey. If the family history shows during one or more decades the existence of one or more of the branches of the psoric or strumous root, this fact will materially aid us through our therapeutics in removing the predisposing cause of the trouble. If the environment of the patient embraces impure air, contaminated drinking water, defective sewerage, unwholesome food, insufficient exercise, or any other of the multitude of disease-breeding influences which may be classed as hygienic, this knowledge, intelligently acted upon, enables us to remove the exciting cause, while an accurate measuring of the pathological condition of the patient hints toward a certain group of medicines, besides enabling us to approximate a correct diagnosis. But the "totality," as the correct interpretation asserts, embraces all these; and inasmuch as "the whole is greater than a part," the physician who, in selecting his remedy, makes use of one to the exclusion of the others cannot do his whole duty as a healer of the sick. Much is said about a correct diagnosis being the best basis for a prescription—about prescribing for the "disease," etc. But the disease itself is determined and named from the symptoms immediately presented by the patient, and, while these may be exact and unmistakable, the deduction we may draw therefrom and project into the patient, and call a certain disease, may be altogether wrong, and the prescription based thereon equally wrong. Hence, other things being equal, we are more apt to be right with positive facts—the symptoms—for a basis than with the uncertain deduction drawn from those facts. Therefore, however we look at the question, the only correct basis for a therapeutic prescription is the "totality of the symptoms." There is no other which makes perfection in prescribing a possibility.

In estimating the relative value of symptoms, those of a purely nervous character, other things being equal, must be given the highest rank. These include, of course, "mental symptoms." If we observe closely it will be clear to us that the first evidence of the approach of the disease will be disturbance of the nervous system. It is also true that the first and most reliable evidence that the patient has begun to improve comes by the same route—there are evidences of less irritability, of more rest and peace. Less valuable are those which follow, and which are shown by change of function of various organs and tissues, and still less valuable are those which

come latest—the tangible *results* of the derangement of function. In the proving of a drug we always get the nervous phenomena; we very often do not observe the change of function, and it is exceptional that we find organic change as a result of drug action.

My own views run parallel with those expressed by the essayist until we come to the point where he says, in speaking of the different methods of arriving at the totality, "The keynote system is a reprehensible practice, tending to undue elevation of certain minor symptoms both in the patient and in the remedy, and disregarding the more careful study or rational interpretation of the case and of the remedy as a whole. I am afraid it leads to permanent mediocrity, if not to retrogression in the study of materia medica, and is certainly unable to survive the application of modern scientific methods."

I fear the doctor has not had in mind the desirability of *defining terms* before entering upon the discussion of this proposition, neither has he given a single reason for his ruthless annihilation of my favorite and well-tried mode of starting my search for the indicated remedy. Let us supply the first omission and define "keynote." The term was first used in musical language, and means the musical note which is the "key" to the tune—the whole tune, the total tune, the totality of the tune. The keynote may be B flat or C sharp, but it is only the key which opens up the whole tune; it is not the tune itself. A "key" opens or unlocks something; it is not the thing itself. So with the "keynote" or "characteristic" system of arriving at the totality. It is properly used to open up or unlock the way to the totality of the symptoms; no one intelligently or honestly claims that it *is* the totality, any more than the intelligent and honest musician claims that the "keynote" to the tune he is about to play is the whole tune. The "keynote" or "characteristic" symptoms are almost invariably such as Hahnemann describes as follows, and as quoted by the essayist himself: "The more prominent, uncommon and peculiar," and "*these in particular should bear the closest similitude to the symptoms of the desired medicine*, if that is to accomplish the cure."

That which gives prominence to a symptom is its "peculiarity," not its severity. Hence the keynote system does not, as the essayist charges, "tend to undue elevation of certain minor symptoms." The keynotes or characteristics are never "minor" symptoms, because in order to be characteristic they must be "peculiar," and, hence, prominent and valuable.

The keynote system is simply what its name, properly interpreted and understood, indicates. As many of the "peculiar" and "characteristic" symptoms of each remedy as possible are committed to memory in connection with the remedy to which each belongs, and when, in the examination of a case of sickness, one or more of these "keynotes" are "struck" by the patient in detailing his symptoms, a remedy is suggested immediately to the mind of the physician thus equipped, and, acting upon the suggestion thus furnished, he proceeds to seek for the totality. He does not prescribe on the keynote alone.

With the vast number of drugs in our materia medica the memory is able to carry only a very few of the most characteristic symptoms of each; and, in general practice, it is essential that the memory shall be charged with at least that much. Without some such mental equipment the physician is, when brought into the presence of the sick, to some extent like the mariner at sea without a compass. With it he is tolerably sure of recognizing one or more familiar faces before the patient has finished his recital of symptoms; the rest is easy.

In conclusion I repeat, the only correct and scientific mode of prescribing therapeutically for the sick is upon the "totality of the symptoms" in the broadest sense. And the best way to reach that goal is, in my judgment, to know "by heart" as many of the peculiar and characteristic symptoms of as many remedies as possible. The greater number of these one has memorized, the more "keys" he will have to the oftentimes difficult problem of the "totality."

J. D. Buck, M.D., Cincinnati, O.: It might be pertinent to inquire the purpose of this paper; is it to reaffirm at this day the declarations of Hahnemann? Is it to be assumed that any Homœopathic physician in this hall denies this postulate? I think not. Every one here has tested it again and again. It is not of importance to inquire if we all agree with this proposition. I see no reason to present this question, except that of explanation or elaboration, and I agree with the essayist in the statement that since the time of Hahnemann, all progress in science has served to confirm and elaborate the original proposition. Therefore, if we find reasons in the progress of science, due to a century of progress, showing that the proposition of Hahnemann must be true, and take that conclusion and demonstration as a guiding light for the future, we shall gain by the presentation of this paper to the Institute. Man is not simply a bundle of functions and faculties; these blend in him, and man is thus composed in part. But besides this, man is a totality, a one, and in him is an individuality which is his real self. In a like manner we may say that disease is a mere aggregation of symptoms, but there is an individuality in disease, as there is in the man. When this individual whole is disturbed, it is disturbed in a definite manner, and disease may be analyzed and traced in detail. If we analyze man in this way, and the drug, whether it be vegetable or mineral, in the same way, we find a definite, organic, inherent relation between them. I must not take too much time in the elaboration of views. Take, for instance, an orchestra, composed of different instruments, each one a soloist and capable of making harmony on his own instrument; this will illustrate the symptoms, in detail, of disease and the functions in man. When you get a symphony from the orchestra, you have each instrument in harmony with itself and with all the balance. If we look at man and disease in this way, we find that every individual has a keynote of his own. Recent experiments and investigations show that all physical nature is made in the same way. It will be demonstrated that every atom of matter in the universe, and everything which is the result of or-

ganization of matter, has the same individuality of its own. As to pathological symptoms, if we look at them as a result, and the totality of the symptoms as analyzed by Hahnemann, as defining the conditions and relations to the cause of disease, we shall see why the similimum is to be taken in all cases. If we wish to take a case—the history of the disease—we look to the cause; not to the individuality, but to the general characteristics. While this is supplementary, it does not touch the real art of therapeutics, because that has relation to the totality of the symptoms and the individuality of the patient. Man's functions show themselves in many planes, and, while the diagram made use of by Dr. H. C. Allen is a very good one for a working hypothesis, it is not exhaustive. The sensations of the patient will be a guiding light in the selection of the similimum, the conditions present relating more directly to the pathology will assist, the modalities will be necessary; all these together will help you arrive at the similimum, and then the question is one of keynotes again. Whether in harmony—as in health—or in disharmony—as in disease—we may detect the perversion of function, as the leader of the orchestra would say: "Your instrument is out of tune." Life is a symphony; as Dryden says: "The diapason closing full in man." Perfect health includes health of mind, harmony of function, and, above all, the quality of life energy manifested. I agree with the essayist in every one of his propositions. As I understand his criticism of the keynote system, he points out the danger lying along that line in overlooking the totality of the symptoms. When we bring together the life forces or drugs and organisms, we are bringing about a tuning of the instrument to its original and designed harmony. Every step made in science in the last one hundred years, and there never was a time when advances were made at one-tenth the rate as at present, has only tended to illustrate and confirm the doctrines enunciated by Hahnemann. What we should do as members of the American Institute of Homœopathy, is to avail ourselves of these discoveries for the purpose of demonstrating to the world that we are in the right. When we have received the scorn of a century, we are justified in rolling as a sweet morsel under our tongue every advance which confirms the words and theories of Hahnemann.

J. B. G. Custis, M.D., Washington, D. C.: Your committee kindly, or with malice aforethought, invited me to fill one of the fifteen-minute spaces in this discussion, but press of other business delayed my response until those places were all filled, and, I believe, more to your profit. The committee has certainly had an easy task in completing its list, and I look upon this discussion as having greater possibilities for profit than any in which we have engaged for some time.

Yes, I remember I have only five minutes to talk, and, realizing that this is the limit of my time, I will have to ask your pardon if I am epigrammatic or dogmatic in the few remarks I may make.

I suppose there is no section in the *Organon* that contains more truth than Section 18. In fact, it contains the keynote of the pro-

fession of faith of the Homœopathic physician, and yet, in the language of its translations, it has probably driven more physicians to empirical work than any other. To say that there is no other guide for the selection of a remedy than that given by the *ensemble* of the symptoms in an individual case makes an insurmountable barrier to many physicians, but no one should profess to be a Homœopathist who does not believe that nothing can cure unless it meets the totality of the symptoms; consequently, anything that cures must reach the totality of the symptoms. No Homœopathist is so zealous in his admiration of the school that he would consider that the profession has in this one hundred years learned all the symptoms that could possibly be produced by remedies already proven. To repeat an old assertion, as Homœopathists, we inherit all that has gone before us. In other words, we inherit all the experience of physicians who have preceded us, whether ranking as Homœopathists or not. In actual practice, that physician is the wisest who is the most independent. If he believes in our law, he is justified in profiting by the experience of those in whom he has confidence. His knowledge of verified symptoms from reliable sources will justify him in prescribing on one symptom, having regard for the accompanying conditions, or, more technically, considering the modalities.

Let me give you an example. During the last month I was called upon to treat a case of intermittent fever, in which the first paroxysm commenced at 10 o'clock in the morning, chills in the back and vomiting after the chill, the patient suffering more from headache than from any other symptom. The next chill anticipated by two hours, with some vomiting, much headache and some perspiration. I might say, by the way, that the patient had been a semi-invalid for a year, dating her invalidism from an attack of malarial fever, during which she was treated *secundem artem* with Quinine, Calomel, Morphine, etc. During my visit at the third call I complained of the warmth of the room; the doors and windows were all closed, and I learned that everything was closed to shut out the odors of the cooking. I also learned that the first symptom of the chill was nausea, which was greatly aggravated by the odors from the kitchen, and that this was a constant symptom. My prescription at this visit was Colchicum, after which the next chill was lighter and proved to be the last. The patient made a rapid recovery, and her improvement is so manifest that she can hardly be recognized by her friends. Now, will any one say I was wrong in prescribing Colchicum because my friend, Dr. H. C. Allen, in his most excellent repertory, says that the patient who needs it must be old and of a rheumatic or gouty diathesis, that the symptoms must be aggravated at night, and that the condition must be epidemic or autumnal, and that the patient must not perspire? Or, because the *Guiding Symptoms* tells us that the patient suffering from intermittent fever, who requires Colchicum, must be of a rheumatic diathesis, that she must suffer more at night and that her fever should be greater in the afternoon?

Both Dr. Allen and the *Guiding Symptoms* tell us that the patient

has sensitiveness to odors, which is a constant and peculiar symptom. I have no doubt in my own mind that if Colchicum were carefully observed when given in a malarial country that poisoning by it would cause such symptoms as my patient had. Had I waited until they were produced before prescribing it, she would either still be shaking or suffering from the effects of suppressed malaria due to quinine given by a physician who, by giving it, admitted his ignorance, or the failure of our law to provide a remedy to cover the totality of symptoms in the given case. The point I wish to make is, that, as a part of our confession of faith, let Section 18 stand; even let it be considered axiomatic. It is true, always has been and always will be. Practically, we are justified in prescribing in accordance with the experience of careful and duly qualified practitioners. It is the duty of such to give the results of their experience, so that, using my case as an example, when we find, in connection with malarial fever, there is nausea which is aggravated by the odor of food, we may give Colchicum without waiting until the totality of symptoms is raised to our requirements. We all respect the condition when we prescribe Sepia for the nausea of pregnancy aggravated by the sight of food, although I have relieved the nausea of pregnancy, in the presence of a rheumatic or gouty diathesis, with Colchicum. Here we find the conditions of the books aiding us in differential diagnosis. Finally, verification by the report of cases cured by a single remedy justifies the physician's prescription and warrants a repetition of his practice by those of limited opportunities. To complete the history of the case, since writing the above, my patient, twenty-four days after her last chill, applied for treatment, complaining of urticaria. I prescribed Hepar, which roused some latent poison, and chills followed. Careful investigation showed that the rash and chills followed mental depression, the result of anxiety or grief. The exhibition of Ignatia was all that was necessary to relieve the condition.

A. L. MONROE, M.D., Louisville, Ky.: It seems to me that the proposition is axiomatic, that we should prescribe upon the totality of the symptoms. What constitutes the totality of the symptoms—what do we include? We must include pathology in the totality; if not, I should not be willing to be limited by the totality of symptoms, objective and subjective, because I do not believe that we interpret symptoms correctly without a knowledge of pathology, and *vice versa*. Pathology is the root of the disease tree—symptomatology is its blossom. We should comprehend it all, but many of us do not do this. We have plugged along certain lines since the time of Hahnemann until some of us would be more confused in computing what the totality might be than we should have been at the time of Hahnemann. Are we, in getting the totality, to be allowed to peer into all the openings of the body, to use the cathode ray and avail ourselves of every knowledge we might obtain from such investigation? Another question, what are the most important and characteristic symptoms—what are keynotes? Generic

symptoms with qualifications. For instance, take "goneness in the pit of the stomach," a symptom which may be found under Sulphur, Sepia, Calcarea and Veratrum. When it comes with hot flashes we cut down to Sepia, Sulphur and Calcarea. When with canine hunger, to Sulphur and Sepia. At 11 A.M. we think of Sulphur, Sepia and Stannum. This means that we must grade characteristic symptoms.

E. R. SNADER, M.D., Philadelphia, Pa.: It is simply impossible to even open the discussion of so great and important a subject in five minutes. Instead of discussing, the time limit compels me to epigrammatically dogmatize. You can digest the mental pabulum later; regurgitate it after you return home, if you please, when you will have ample opportunity to damn or to commend the views I express.

My individual conception of what is meant by the expression "the totality of the symptoms" is not at all in accord with the argument I shall present. I must assume, temporarily at least, that my opponent's conception of the trite saying is right, for the purpose of utterly annihilating, if I can, a conception which is ruinous to the advancement of Homœopathy, which justly makes our school a laughing-stock among reasoning men, and is the stone of Sisyphus which we will be compelled to roll up the mountain of progress forever, unless we free ourselves from what I individually conceive to be the grossest possible perversion of the fundamental truth of Homœopathy. The interpretation which has been forced down my throat ever since I drooled over the enormous doses of Homœopathic materia medica I had to take, is that I must prescribe for a case upon the totality of *word* symptoms presented, independently of the nature, origin, pathology, inter-relation or diagnosis. I was also told that I need know no more of the drug than that the medicament had these particular symptoms. Against this idea I now dogmatize, but will cheerfully discuss if given the opportunity.

The phrase "the totality of the symptoms must be the sole indication to direct us in the choice of a remedy" should be absolutely abandoned.

1. Because it is seldom, if ever, possible to cover all the symptoms, consequently no prescriptions are ever made which include all the phenomena, and hence the rule is directly violated in every attempt at its application. Is the mental process which discriminates between the important and the unimportant symptoms valueless?

2. Because the simple superficial symptoms only shadow the real power of the drug—only give you inklings of the power within. Do not prescriptions based on word symptoms alone ignore the very life blood, the soul power of the drug, for the tawdry outer garment? if I may use such expressions to indicate inherent force. Can you always tell a man or a drug by the dress?

3. Because, by depending upon symptoms alone, systemic states may be ignored, the recognition of which is vital to a cure.

4. Because no man should ever prescribe a drug who does not sense the power of that drug, feel its range of action, know the tissues it acts upon, kens what he intends to do with it in the workings of the body toward health, and such a knowledge of a drug is impossible from a study of it from a simple symptomatic standpoint. I honestly doubt if Hahnemann ever made a purely word symptomatic prescription in his life. He knew a drug's general action before he proved it, he knew its sphere from his Old-School experience, and it was not possible for him to ignore the knowledge that he was in the very warp and woof of his medical mentality. He read the symptoms aright because he had all the knowledge that many of his so-called interpreters tell us we do not need.

5. Because the proposition forces the conception that our materia medica armamentarium is perfect for the control of all curable cases. Who would dare make such a claim?

6. Because the conception of symptomatic prescription paralyzes directly and indirectly the study of everything but materia medica, kills diagnosis, the only means by which you can tell what kind of treatment you need, whether surgical, mechanical, electrical, dietetic, etc., so-called physiological prescribing or the Homœopathic similimum.

7. Because a purely symptomatic prescription will not cure unless it absolutely represents the real, underlying condition causing the symptom, the same word often being used to express dissimilar states, and, consequently, most prescriptions which do no more than cover the words are the rankest empiricism and experimentalism in the world, without reason and without science, and are most certainly not true Homœopathy.

8. Because a symptomatic prescription of necessity, if the totality is what you are after, reduces all symptoms whatsoever to the dead level of equal value. How absurd!

9. Because the genius of a remedy, the epidemic remedy, the endemic remedy and the clinical experience, if covering the totality of the symptoms, is the sole indication to direct us in the choice of a remedy, must be ignored.

10. Because symptoms indicating improvement, crises, elimination, favorable evolution and symptoms of little value, must also be covered in the totality.

11. Because diametrically opposite, mixed, consequent and inconsequent conditions may all be represented by an exactly similar symptomatic phraseology, blinding us as to a true conception of what we ought to do, unless we ignore mere symptomatic prescribing.

12. Because it makes the accumulation of clinical experience a mountainous task, so that even centuries of labor and keen, sifting observation can never educe sufficient of value to justify the work, and consequently such work clogs the wheels of progress in medicine. And, after all, when the experience is sifted, it will be found that the symptoms which have been cured have represented states. Why not prescribe on the states and conditions now? Why not accumulate definite and positive knowledge now?

13. Because such prescribing limits the scope and usefulness of Homœopathy and confines it to so narrow a sphere that an old woman with a book can prescribe with the same skill as the most learned professor of materia medica. She needs know nothing but symptoms. Forsooth! What rot!

14. Because a single condition not manifesting itself by a subjective symptom, may be the key to the whole therapeutic situation and may be of more value for the purpose of finding the similimum than the presence of fifty other symptoms not coherently connected with the underlying state.

15. Because the symptoms of past disease are mingled with the present ailment, and often have "nothing to do with the case" any more than a rickety rosary has to do with an ingrown toe-nail.

16. Because reflex symptoms are thought to have their real in their apparent origin, and thus much good medicine is wasted to produce no good to the patient and skepticism in the doctor.

17. Because so narrow a view of the method of finding the similimum drives all broad-minded, rounded, thinking, progressive physicians into agnosticism regarding Homœopathy, and into the worst idiocies of Allopathy.

18. Because it leads to the assumption that an essentially incurable malady will recover, because some of its salient symptoms have improved under symptomatic treatment.

19. Because, practically, not once in fifty times does one make a purely symptomatic prescription. He unconsciously uses all his knowledge, from whatsoever source obtained. Why retain a declaration as a dictum that so illy represents the actual procedure in practice?

20. Because symptomatic prescriptions, if actually adhered to, so limit the field of usefulness of true Homœopathy, that it is robbed of nine-tenths of its just glory. Drugs have an infinitely greater range of activity than is shown by the slender skeleton of a schema of symptoms.

21. Because, inasmuch as it is probably impossible to master the minutiæ of the symptomatology of more than one hundred drugs in a lifetime, and most of us have mastered less, it necessarily follows that we have "short cuts across the fields," which are superior to the covering of the totality of the symptoms, *i.e.*, the law of *similia* is broader and easier of application than pure symptomatologists would have us believe.

22. Because the prescription of drugs upon a purely symptomatic basis is only one method, and the poorest one at that, of applying the general law of *similia*.

23. Because it robs a man of the fruits of experience, by making him wait, sometimes for years, before he is able to repeat a drug that he has used for a peculiar symptom. For instance, if, under Croton tiglium, he has removed a sensation as if the eye were being pulled back into the head, and the prescriber does not know whether his patient has hæmorrhoids, glaucoma, iritis, cyclitis or a conjunctivitis, he misses the opportunity of applying the drug in diseases where the symptom does not exist, but on which the medicine may

have a most pronouncedly beneficial effect. As a mechanic with drugs, he has only a kid-glove acquaintance with his tools.

24. Because it is an outrage on liberty of opinion and common sense to prescribe the method in which a man *must* apply the law of *similia*, making a rule of method superior to the law itself. The iconoclasm of science may irrefragably shatter into a thousand fragments every single method of procedure in applying the law, and still Homœopathy, the truth *similia*, stands grandly erect, its glory effulgent and its brilliancy untarnished.

25. Because many honest, thinking Homœopaths believe that purely symptomatic prescribing is an admirable illustration of "How Not To Do It."

26. Because symptomatic prescribing is not always the speediest, surest, safest way of controlling symptoms, as, for instance, post-partum hæmorrhage and convulsions of uræmia.

27. Because, if the totality of the symptoms is taken, the failure to appreciate the full significance of one or more of the group presented, may lead to the most asinine prescription, and often to fatal results, as, for instance, a mistake in interpreting the abdominal cramps and shreddy discharges of ectopic gestation, the twitchings of beginning convulsions, the sighing of fatty degeneration of the heart, or the œdema of the face at the beginning of Bright's disease.

28. Because the totality of the symptoms may represent a dozen different disease centres, if you please, some of which may require medicinal, some mechanical, some chemical, some dietetic, some surgical, some hygienic control and some may need no attention whatever.

29. Because it has not yet been demonstrated, and never will be, if we may judge from the past, that prescribing upon the totality of the symptoms is the best way to administer drugs Homœopathically.

30. Because purely symptomatic prescribing leads to the direct teaching of another false dogma, viz., if you prescribe for the totality of the symptoms, you need care nothing for the diagnosis. In heaven's name are we to reduce ourselves to mere medical puppets, mere dolers out of drugs, mere specialists in a peculiar method of mixing and administering medicines, with no more title to the name of physician than a knife grinder has to the sobriquet of surgeon?

31. Because purely symptomatic prescribing leads to the assumption that Hahnemann thundered forth from a medical Sinai an unchangable decalogue, an immutable series of commands, from which there is no appeal. Yet we all know—alas, only too well—that the science of medicine is pre-eminently of human origin. Its wreck-strewn path of progress betrays that sad fact to every observing eye. And there are medical Galileos who declare that the world of medicine does move.

32. Because purely symptomatic prescribing ignores pathology, anatomy, physiology (sciences which are relatively correct), the reflexes and, often, clinical experience.

33. Because prescribing for the totality leads to the neglect of the

study of the clinical course of the disease. If this disease course were known in some instances, no medicine whatever would be given. If drugs are given in certain cases where they would have gotten well without them, it leads to a false belief, on the part of the prescriber, in the efficacy of his drugs.

34. Because purely symptomatic prescribing leads to unjust and unreasonable claims of drug efficacy in the over-enthusiastic, and leads to the rankest skepticism and pessimism in those who are doubting Thomases.

35. Because covering the totality makes a prescriber careless as to how high or how low the temperature is, how much blood, pus or albumin, or how many casts there are in the urine, or what proportion of urea is excreted.

36. Because, in the present vague state of our knowledge as to the *modus operandi* by which cures are wrought by drugs, it is an unwarrantable assumption "that the totality of the symptoms must be the sole indication to direct us in the choice of the remedy."

37. Because, as the origin and manner of production of many symptoms are yet unknown, the purely symptomatic method of prescribing should be reserved for that class of disease phenomena.

38. Because it is impossible to cover immediately the totality of the symptoms in such grave emergencies as where death is immediately portending, except one were possessed of the combined genius of all the lights of the medical world, and of the Great Physician Himself.

40. Because the totality may change fifteen seconds after you have made your prescription, and again and again before you have an opportunity to re-prescribe. If the remedy covering the totality is always the only medicine, how long does it remain so? No "lightning-change artist" could keep pace with the-chameleon evolution in such a comedy of cure.

41. Because when a purely symptomatic prescription fails, Homœopathy has a black eye given it, when, in reality, Homœopathy did not fail, but a false method of applying the law of *similia* did.

42. In a purely symptomatic prescription, in covering the totality while ignoring the pathology, it logically makes no difference whether a symptom, like dizziness, has its origin in the ear, the eye, the head, the heart, the liver, the stomach, or in systemic blood states; yet we have a reasonable right to demand that the symptom disappear, no matter where or how originating, if covering the totality of the symptoms, and ignoring pathology, be the only rule of applying Homœopathy.

43. Because purely symptomatic prescribing tends to limit the use of drugs to internal administration. If *similia* is a law, it ought to be as efficacious externally as internally.

44. Because such a method demands that, of necessity, subjective symptoms be present before a prescription be made.

45. Because it makes symptoms so prominent that the tendency exists to ignore underlying states, the real fountain of the symptoms.

46. Because, as ordinarily and erroneously interpreted, subjective symptoms are given undue prominence.

47. Because subjective symptoms are most liable to misrepresentation, and always need analytical interpretation.

48. Because, in the *schema* form, from which we derive our symptoms, the primary and secondary symptoms of the drug are so intermingled and hopelessly mixed that a correct prescription becomes a matter of luck, chance or inspiration.

49. Because in the symptomatic materia medica irritative, eliminative and mechanical symptoms are mixed with pure drug symptoms, and are indistinguishable from genuine drug effects.

50. Because undue weight is given to unusual and peculiar symptoms, because so many medicines have the same word symptoms. In other words, we try to force a drug to have a differentiating individuality.

51. Because, until we have Homœopathic pathology and toxicology, we cannot understand the nature of the symptoms, and can but guess at their meaning, and this uncertainty unquestionably leads to poor prescribing.

52. Because none of the drugs proven on human beings have been pushed far enough to produce a true drug picture; consequently, it is never possible to secure a veritable totality by symptomatic prescribing.

53. Because, until toxicological studies, based upon experiments upon animals and in the laboratory, define the general sphere of a drug, a correct interpretation of a mass of subjective symptoms is impossible.

54. Because while you are selecting a drug having the totality of the symptoms, in a difficult case, from our ordinary materia medicas and repertories, the patient may be shaking hands with the angels.

55. Because many of the symptoms found in the materia medicas bear internal evidence of having been interpolated in what was supposedly a pure proving. How are we to know whether a symptom is genuine or not? Shall we prescribe on it, anyway?

56. Because the materia medica symptomatology, save in the case of a few of the polychrests, are not yet proven (but are assumed to be) drug effects. Shall we spend our lives in trying to prove that the mental and physical vagaries of an hypochondriac or a convalescent are symptoms which may be relied upon to prescribe for suffering humanity?

57. Because the prevalence of "three-leg" prescribing shows that the vast majority of men cannot find the similimum by the totality.

58. Because the "keynote" system, by clinically proving that some symptoms are of more importance than others, logically disproves the totality idea, which places all symptoms on the same level.

59. Because if the totality be conceived to mean the majority of symptoms, which is not a fair conception, it leads to the making of

prescriptions by the mathematics of number, and the drug must be given which has the greater number of symptoms, without regard to the tissues involved, to the character of the disease or to the result to be produced.

60. Because the principle of *similia* is broader than mere drugs, and it is unwise to think that we can only find the similimum by interrogating drugs as to their powers in one way—the proving of drugs on the healthy to get symptoms.

61. Because a hundred years of experience in symptomatic prescribing has not demonstrated that it is the only, or that it is the best, method of applying Homœopathy.

62. Because if *similia* be a law of cure, and diseases are dissimilar, and the return to health necessarily wrought in different ways, the prescribing of medicines on purely symptomatic indications reduces the law to simply a *method of drug selection* which may, or may not, have anything to do with the law which cures the disease.

63. Because what, with our present knowledge, are now known as physiological drug actions (a term used simply to express what is thought to be a certain kind of drug effect) may ultimately prove to be the most exquisite examples of Homœopathy when we are freed from the drear waste of a Sahara of symptoms.

64. Because in purely symptomatic prescribing you are nearly always compelled to take the patient's word as to improvement. You make the sufferer the criterion of a successful prescription. What sort of a physician is he who must wait the patient's opinion of his own condition?

65. Because in making symptomatic prescriptions you are compelled, if you cover the totality, to accept symptoms which you believe have no real existence. You know you can make neurotics and hypochondriacs give you any group of symptoms you want; your mere questioning makes them have them.

66. Because if Hahnemann, in proving the truth of *similia*, could pick out the curative drug in a given disease in the long-linked prescriptions of the Old School and the crude compounds of quacks, he himself indisputably demonstrated that the totality of the symptoms *need not* be the sole indication to direct us in the choice of a remedy.

67. Because all fundamental laws are the perfection of simplicity, and the method of applying the law of *similia* exclusively according to symptomatic indications is crude and cumbersome, and, ergo, is not fully in accord with the law.

68. Because the method of applying drugs symptomatically is a too separate and distinct process, divorcing one from all other medical knowledge and consequently limiting the usefulness of the method. I mean that making a symptomatic prescription is a specifically separate mental procedure.

69. Because, in cases possessing many symptoms, too many medicines are indicated, and, consequently, uncertainty and an attitude of apology is taken unconsciously by the physician, and his power with his patients is weakened. He cannot know he has selected the

right remedy until he sees what the remedy he has chosen has done.

70. Because, according to Hahnemann himself, the sole duty of the physician is to cure, and the gathering of clinical experience and the determining whether the symptomatically indicated remedy will remove a given group of symptoms is a secondary matter, and the prescription of a drug, based on symptoms, is therefore putting the cart before the horse, *i.e.*, making the gathering of experience of more importance than the cure of the patient.

71. Because the symptomatic method of prescribing, forces the assumption that we have arrived at the *ultima thule* in medicine, that one drug is sufficient for cure, that we have that drug, that but one drug must be used and that two cannot be used—although a given disease may present several distinct disease units, calling for separate drugs. We do know that some drugs work well together; we ought to know that we are still in swaddling-clothes, so far as the development of the therapeutic action of *similia* is concerned.

72. Because you are never absolutely sure that you have the totality of symptoms; the patient may, through ignorance, have withheld a vital symptom, or you may not have sufficient acumen to elicit all the phenomena.

73. Because clear-cut, unmistakable, symptomatic indications, calling for one medicine, and no other, are episodes in the history of symptomatic prescribing, and, when found, they fail just as frequently as do the prescriptions we force to fit the case.

74. Because the value of hard-earned clinical experience is lessened, for symptomatic prescribing makes you mentally assume that there has never been a case exactly like the one for which you are prescribing. Perhaps you have not seen a completely parallel case, but you have certainly seen states and conditions which were similar.

75. Because, if like cures like, the method of apprehending the likeness need not be iron clad. Any method by which the similarity may be ascertained is legitimate.

76. Because the pet remedies and the routinism of all practical physicians prove that *similia* has a wider application than is shown by the symptoms, or that the cases recovered without—or in spite of—the medicine administered.

I could go on and furnish you with a hundred more reasons why the conception of pure symptomatic prescribing is to my mind a delusion and a snare. This is not the place to give my ideas of what the proper method of making a Homœopathic prescription is; it is my province at present simply to oppose a method that was taught me, advocated by some, and, practically speaking, practiced by none. For the sake of truth, justice and loyalty to the idea of *similia*, let us not hamper the application of Homœopathy by a method that is rankly inadequate to give us the full beneficence of one great law. I know it will be objected that I have made a case of special pleading in this discussion. It will be asserted that nobody prescribes literally (which is exactly

what I have been trying to set forth), as I have indicated in my criticism, and that there are many side-rules formulated by Hahnemann and his followers that show the exact meaning of the phrase "the totality of the symptoms." That may be true, but a method that has to be interpreted in several different ways needs to be reformulated, and needs it badly, and the sooner we boldly recognize the essential value of states, conditions, pathology, diagnosis and clinical experience in precisionizing the data in making a Homœopathic prescription, the more readily will our cause advance.

H. W. PIERSON, M.D., Chicago, Ill.: We know that all do not secure the totality of the symptoms in finding the similimum, and there may be a reason. This reason, in my own case, was the limited knowledge I had of the expression of disease in symptoms, and the limited knowledge I had of our materia medica. What are we to cure? This is one of the stumbling-blocks in the path of every physician. One man seeks to cure the visible manifestations of disease, and, when he has done that, the disease, *per se*, is cured. Another seeks to look upon certain factors or phases of the disease as the totality, and, when he has selected a remedy covering one or more points and has removed those symptoms, he thinks the disease is cured and according to *similia*. The trouble is that we do not look upon disease in the deepest and most significent sense. We see only a part. According to the *Organon* the physician has only to remove all of the symptoms in order to abrogate and annihilate the internal changes, the totality of the disease—the disease itself. But when disease is annihilated, health is restored, and this is the highest and sole aim of the physician. Then, in Section 5, it says: "Before we can look for the similimum, it is necessary that we should seek and find the exciting cause." Sometimes when we remove the exciting cause the disease disappears with it. Section 84 tells us how to find the similimum. Many times, in seeking the similimum, it is in our head, instead of in the expressions of the patient. We are too apt to be governed by our own impressions, instead of taking the expressions of the patient, in his own words, of his own feelings.

T. P. WILSON, M.D., Cleveland, Ohio: I wish to say at the outset that if there is any one here who thinks he has a heaven-ordained scheme for constructing a "scientific materia medica," implying thereby that there is no such a materia medica already under construction, I am not of his class. I am not willing, even for the sake of argument, temporarily to lay aside our present construction and all that has been done since the day of Hahnemann and take up the question *de novo*.

First, as to the character of Section 18. It offers for our consideration a definite issue. That issue has been presented by Hahnemann in German, and by Stratton and Wesselhoeft in English. A careful comparison of the three will show important discrepancies. It is a question in my mind if Hahnemann correctly expressed the

true idea, but it is not a question if Stratton or Wesselhoeft either correctly translated Hahnemann or succeeded in catching the idea —they both failed. Which of the three differing statements shall we follow in our discussion? In the opening of the paragraph, Hahnemann uses the words "*der Gesammtheit der Symptomen*," which is supposed to be represented in English by "totality of the symptoms," and, at the latter part of the paragraph, he uses the words "*der Inbegriff aller*," translated by Hering as "*ensemble*." This word is neither German nor English; it is taken bodily from the French. Hahnemann never used that word; Hering uses it as a synonym, for variety's sake, probably. He uses "*ensemble*" and "totality of symptoms" throughout his translation in an alternative manner, showing that he conceived no difference between them. Wesselhoeft avoided this method and translated the differing words as the same, rendering both as "totality of symptoms." I think he would not for himself claim that he had made a literal translation.

Secondly, aside from the various terms employed by either of these distinguished teachers, we have an *idea*, and that is of far more importance to us than any verbal criticism can possibly be. In the first place, let us take the symptoms—their number may be legion, or more—and classify them:

1. Diagnostic symptoms.
2. Characteristic symptoms.
3. Modalic symptoms.
4. Concomitant symptoms, etc., which may be otherwise and perhaps better stated. Now you have the "*idea*." In order to find the true remedy, we must have the symptoms as a picture before the mind. A slight mental and physical effort will enable us to make out a pretty complete list. That constitutes a totality.

They number a legion of unlike facts; what are we to do with them? The mind can grasp their totality only by going over them *seriatim*. That this is impracticable in the every-day work of the physician must be apparent to all, for has he not to do the same work with the drug symptoms? which would be like the farmer attempting to carry his apples to the cider-mill in his naked arms. I was taught to do this and wasted much valuable time; thousands are deterred from entering our school because they are met at the outset with this psychical impossibility. Now, another and better use of these symptoms can easily be made, but, of course, only by the industrious student. Let me illustrate: A musical chord consists of a number of harmonious notes sounding coincidently. I have seen Blind Tom when he could name every separate note in a very complex chord; he expressed its totality. Musicians of lesser name could not do that, but, upon hearing a chord, could tell you instantly if it were correct or not. This, which is found in a large collection of notes, *simultaneously* expressed, and which tests their correctness, is expressed by no other word so perfectly as "*ensemble*." This is not a totality, but is the result obtained by the totality. This ability to catch the *ensemble* is easily within

the reach of ordinarily trained minds. Herein lies a wide difference between the neophyte and the veteran. The musical and the medical student alike must go laboriously over the detail of the totality until he is able to master the *ensemble*. The medical practitioner of long experience is able to catch, almost at a glance, the *ensemble* of Arsenic and the *ensemble* of the patient whose symptoms clearly indicate Arsenic. This is what his experience is worth to him. This borders upon intuitional prescribing, but there is no such thing as intuitional prescribing. It is the mastering of the *ensemble*, both of the symptoms of the drug and the symptoms of the patient. This is feasible, because it is attainable; we do injury to our science of healing by attempting to do what cannot be done.

My proposition, therefore, in brief, is that Section 18 expresses a true principle and, if the phrase "totality of symptoms" were erased and "*ensemble*" substituted, we should have not only a scientific expression of a great fact, but we should make Homœopathic therapeutics so plain that a diligent student could not fail to make practical a voluminous and seemingly complex pathogenesis, entirely plain and practicable, while the many workers who are groaning over our vast symptomatology, and those who are engaged in condensing the same, would find their occupation gone. The photographer takes in the *totality* of the picture; the painter presents the *ensemble*, leaving out a multitude of minor points. This is according to Section 153.

W. H. HANCHETT, M.D., Omaha, Neb.: This reminds me of a covenant meeting in the Baptist church, and I come here to renew my covenant. I feel that we are working on a solid foundation; the law of *similia* is sure, and the method of prescription is certain. The pathology of disease differs widely; the case of scarlet fever is typical to-day, to-morrow it is different. How can it be that we could reasonably prescribe any other way than upon the totality as found in the patient? Many of us younger men would like very much to be scientific, and to study the mysteries of pathology, but there is no haste in remembering all these things. There has been so much said, and so ably said, that I am unwilling to take much of your time, but there are one or two points to which I wish to refer. One is, when shall we change the prescription when it does not cure? How soon shall we change the prescription when we have not found the right remedy? A professor and student of materia medica once said to our class: "Gentlemen, if you have what you suppose is a Gelsemium headache, and that remedy does not bring relief in fifteen minutes, try another remedy." So, there are remedies which are believed to work faster than others; we have a multitude of things to bear in mind in the application of the law of *similia*. Nevertheless, we feel and know that there is no other way given under heaven and among men, whereby we may prescribe scientifically and rationally.

T. F. ALLEN, M.D., New York, N. Y.: To save time I have printed

a case which was pronounced incurable by an eminent Allopathic physician of New York City. The case is printed for distribution, analyzed and the reasons for the prescription are given. What was I to do with progressive deterioration of the anterior horns of the spinal cornua? What with the trophic changes in the muscle, which, according to Charcot, is not fatty degeneration, but a fatty deposit in the connective tissue of the muscle. One cannot base a prescription on that knowledge. It is not in the materia medica. The drug which cured the case has been known to produce fatty degeneration, but, according to histological pathology, by degeneration of the muscle substance into fat. The fat is found in the sheaths of the fibrillæ, and the muscle loses its transverse striation, which, according to Charcot, does not happen in the case referred to. I have also had printed the method of selecting the remedy. The remedy which has the largest number of supposed characteristic features is not the remedy which has the totality of the disease. Five remedies on this chart have the essential elements. Five drugs have the totality; only one could be selected. In this chart there is food for reflection, not only as concerns the totality, but for those gentlemen who prescribe upon the largest number of indications.

WM. OWENS, M.D., Cincinnati, O.: When Hahnemann used the term "totality of symptoms," he, without doubt, meant what he said, for he repeats the same phrase thirty-four times in the *Organon* alone. He did not mean, however, that every symptom should be present in every case, nor did he undertake to explain how the pathological lesions, which brought about these symptoms, may have been induced, and, in fact, declares that this knowledge is not necessary to the physician. He maintains further that the "vital force" is the power behind the throne, which maintains life and health, and the disturbance of which gives rise to the morbid process called disease. But he does not tell what this vital force is, nor whence derived, but admits that it is associated with matter in some form, and that it controls the functions of every living organism, and that this vital force, acting upon and through matter, "affecting, and, as it were, infecting it," renders it susceptible to irritability, and from it all the functions of life are evolved. He also affirms that so-called disease is only a disturbed state of the functions and feelings of the organism.

It was upon this assumption of the vital force in organized matter that Hahnemann erected his science of drug pathogenesis. While he demonstrated a law of drug action upon the living organism, he failed to show the relation to organic life from which all function arises. While he declares that all so-called disease is simply disturbed function, he fails to connect these functions with the organic nervous system, which is now generally conceded to be the fact.

Living protoplasm is at the present day regarded as the physical basis of life, and it alone is living matter. When it enters into the formation of cell or tissue, it retrogrades and dies. We are taught

that protoplasm enters largely into the ganglionic nerve cells, and that these cells control all organic function, and are highly susceptible to irritation. We shall, therefore, find it impossible that there can be other source than the ganglionic nerve cells as a medium for the reception of irritability, cell activity, function, nerve energy and all the functions essential to life.

Hahnemann taught that there could be no true similimum of any morbid process, unless the drug contained, within its pathogenesis, all of the phenomena (symptoms) of that morbid process. He taught that all so-called disease was a disturbance of physiological process, arising from some disturbing force infringing upon the vital force, perverting the functions of life, differing in their specific effects induced upon the individual from the specific dynamism of each.

Hahnemann showed an intimate relationship between the so-called natural disease and those artificially induced through drug pathogenesis or otherwise. From what has been here presented, it would appear that the morbid process, whatever it may be, when applied to irritable matter, disturbs the vital force within it, and the result will be disturbed functions of the organism, which gives rise to the so-called disease, and by these means furnishes a true and reliable guide in the therapeutic management of every morbid process.

One point more remains to be noted, and that is the special and peculiar phenomena which every drug is known to induce. It is a fact in science and nature that no two substances are alike, and no two forces in nature produce like results. Infinity in variety is the law of nature, and as all cures are to be effected by attempts to imitate nature, and by supporting her, it becomes necessary, in securing these results, to select a substance, drug or agent, which, in its pathogenesis, induces the peculiar phenomena which are observed as occurring under the morbid process as it is seen in nature in the totality of its symptoms in each and every case.

PEMBERTON DUDLEY, M.D., Philadelphia, Pa.: Did I not understand that Drs. T. F. Allen, Deschere and Dewey favored this discussion, because it looked towards the formation of a more perfect materia medica? The question was suggested in the original essay as to how much similarity in the drug is essential in order that it may be curative. Hahnemann did not say that the complexity of symptoms is the disease, but that it represents the disease, guiding the physician in the selection of the drug. This source of symptoms has, first, locality, therefore the drug must be specific as to locality. It must have enough similarity to hit the locality whence the symptoms originate. If we leave out certain of the symptoms, representative, as Hahnemann calls them, we may not choose a drug specific as to locality, in which event we might as well throw the drug into the sea. We shall have missed the mark—may be only a little, but we have missed. Second, as to quality, and because these symptoms have quality, therefore the drug must be

specific to the case as to quality. If we discard a certain portion of the totality, we have diverted the drug and are outside the case—no matter how little, we are outside. We have cut loose from our moorings and, although we may be very near, we have lost anchor and are drifting. Let me ask a question. If it be so all important and all essential that our disease symptomatology be perfect—absolutely perfect—is it not equally essential that our knowledge of drug symptomatology be equally perfect? I study and study and study the symptoms of my patient and then prescribe a drug, one-half of whose symptoms do not belong to it and never did. And to call that Homœopathy! If we insist upon the totality of the disease symptoms, we should also insist upon the totality of the drug symptoms. The whole argument this morning is an argument in favor of a more perfect materia medica, to whose every drug shall be ascribed each and every symptom which belongs to it, and no other.

BUSHROD W. JAMES, M.D., Philadelphia, Pa.: We must have a good materia medica to select from, or we shall fail in making a good selection of the proper remedy. Instead of the term "totality of symptoms," I would prefer using the term "the features of the remedy," or the "picture of the remedy." If I have the symptom "picture of the remedy" well in mind, and a case comes along to which I wish to apply that picture, I form in my mind a comparison of that disease-case and its main features as a collective whole and compare it mentally with the mental pictures I have of the remedies. Taking all the points into consideration, I finally select one of the remedy-pictures and say: "This is as good a likeness as I can find; there probably is another pretty good one, but this one is the better," and I apply that remedy and hope to cure Homœopathically. When I was young I knew more of a few remedies than I do now. Professor Dake taught us a few remedies and taught them well. Now I know many more remedies and their general features. Just now I recall a case while visiting physician to a children's home, and was called to look at the case of a little boy, who, while he had some peculiar symptoms, could tell but little of himself. The peculiar expression and action of his eyes, face and tongue presented a picture of Stramonium. The nurse told me the child had eaten something which had been given him through the fence by some other boys outside. I examined the substance of which he had eaten and found they were Stramonium seeds; he was suffering from Stramonium poisoning, and any one looking at the boy could see Stramonium symptoms written all over him. Another illustrative case: A man came to my office with dilated pupils, flushed face and all the symptoms of congestion—a perfect picture of Belladonna, although none of his statements helped me as to the cause. I asked him if he had any Atropine put in his eyes. He said he had not. I asked him if he had been taking any Belladonna, and received another negative answer. Upon probing further, I found he had been using a Belladonna plaster once a week

on his chest, and his symptoms were also worse once a week, following at the same time. He was a perfect picture of Belladonna —in fact had a proving of it from that plaster. I prescribe my remedy from the picture I have of the remedy and the disease in my mind at the time of prescribing.

D. H. BECKWITH, M.D., Cleveland, Ohio: I have been delighted with the paper and with the discussions, although but little has been said along the line of what is practical in a physician's life. You talk of the totality of the symptoms. When I was young I studied Nux vomica for two weeks; if a man sits down to examine a Nux patient, and goes through all the symptoms, he will see about five patients a day. For general purposes he takes the character of the disease and the character of the patient, and the remedy suggests itself. A man sleeps in a room where sewer-gas escapes and is poisoned thereby; it produces vomiting, weakness, even prostration—what is the remedy? You may give him pellets and medicated tablets without effect, but remove the cause and you will remove the disease with it.

J. D. BUCK, M. D., Cincinnati, Ohio: There is one point I desired to have brought out. There are several things to be considered. First, the cause of disease; it is often unknown, but important to obtain. There is the result of disease, as hyperæmia, anæmia, etc. The Old School base their practice entirely upon pathology; we should not be ignorant of it. What is now cause may become the result and the result become the cause. What shall be the basis for the selection of the remedy? That moving panorama of disease known to us as the disturbance of the life functions. When you place the symptoms of disease against the pathogenesis of the drug there is a living force placed against a living force by equal vibration, by synchronous vibration, by the phenomena of movement. Take all the experiments of modern science in attempting to cure consumption by making pathology the basis of the prescription; we know it is not a safe guide. We are dealing with vital force. The vital quality of the remedy, whatever it may be, is retained and recorded from its pathogenesis.

T. Y. KINNE, M.D., Paterson, N. J.: When your good wife married you, she told you that she loved you better than any other man on earth. I doubt if that one statement has satisfied you all these years, but have since many times asked her if she still adhered to that original statement. When I espoused the cause of Homœopathy it was because I believed the teachings of Hahnemann. I believe in the totality of the symptoms. I have accepted it as my medical bible, and I rejoice that the bible reading here this morning has tended all one way. Dr. Hanchett came to renew his covenant because he is a Baptist, while I, as a Methodist, came as to a love feast. I believe in Homœopathy; I try to be a follower of Hahnemann, and I have never yet felt that I could too often or too

publicly avow my adherence to his principles and his practice. I take it that you all feel the same way, so we will express the same firm belief and expect, by following that belief, to eventually reach the reward that he has reached and is enjoying. I have the honor to offer the following resolution:

Resolved, That *Similia Similibus Curentur* has been scientifically proven to be a law of therapeutics and has been demonstrated to be successful in application.

Motion put and carried unanimously.

LAMSON ALLEN, M. D., Worcester, Mass.: I desire to offer the following:

Resolved, That the Materia Medica Conference recommend to the American Institute of Homœopathy that it instruct its Materia Medica Committee to carefully prepare an accurate and scientific plan by which future provings of drugs may be conducted.

It has been said this morning that we should avail ourselves of every advance in science; that was the key-note which prompted me to offer this resolution. I believe it is possible to have every drug in our materia medica proved accurately and scientifically with every aid which the profession has at present. That, to be sure, is a prodigious task, but I believe it necessary for the life of our school of medicine. In order that the first step may be taken as early as possible I offer this resolution and move its adoption.

Seconded by Dr. C. E. Fisher, of Chicago, and carried.

Resolution adopted.

Dr. C. E. Fisher, Chicago, Ill., offered the following resolutions:

1. *Resolved*, That, as attendants upon and participants in the Materia Medica Conference, held under the auspices of the American Institute of Homœopathy, we express our appreciation of the work of the Conference Committee and our gratification that the movement set on foot for materia medica improvement has awakened so great interest and has been productive of such generally satisfactory papers and discussions, and

2. *Resolved*, That we join the committee in the desire that these conferences be continued from year to year, as long as may be deemed necessary by the Institute.

3. *Resolved*, That we recommend that one-third of the members of the Conference Committee be retired from service each year, and that the places of those retired be filled by other members selected from the membership of the Institute by its Executive Committee.

4. *Resolved*, That we recommend that the Conference Committee be requested to select all the disputants from year to year, who are to engage in the discussions of the propositions submitted; disputation by volunteer speakers to be limited to purely extemporane-

ous remarks; the appointed disputants to be limited to six in number and to be allowed ten minutes each.

Seconded by Dr. C. F. Menninger, of Topeka, Kan.

Sections 1, 2 and 3 were adopted *seriatim*. The following amendment was offered to Section 4: "That the discussion be limited to five minutes, instead of ten, and that the number of disputants be unlimited."

On motion of Dr. T. P. Wilson, of Cleveland, Ohio, the amendment was tabled. A motion by the same speaker, to table the entire Section 4, was lost, and Section 4 was then adopted as read originally.

Dr. CONRAD WESSELHOEFT, of Boston, Mass., then offered the following:

Resolved, That it is the desire of this Institute that the hospitals of all schools should furnish accurate statistical information for the comparison of the value of the different methods of therapeutic practice.

Resolved, That this is the best method of deciding matters in dispute between the schools, as well as between the different parties within schools, and that, for this purpose, our hospitals, as well as those of the older school, be appealed to to carry out the purpose of these resolutions.

Adopted *seriatim*.

Adjourned.

REPORTS OF THE SECTIONS,

INCLUDING THE

PAPERS AND DISCUSSIONS.

REPORT

OF THE

SECTION IN MATERIA MEDICA.

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Materia Medica Pictures.

By Frank Kraft, M.D., Cleveland, Ohio.

I remember to have heard our excellent friend and ex-President, Dr. McClelland, say that when sculptor Niehaus was about to prepare his model for Hahnemann's head he was in doubt concerning which portrait, of the many ready at his hand, to use. Finally he took what must appeal to each intelligent member as the most logical line of thought, the known characteristics of our most noble grand-master in Homœopathy, and from these constructed the beautiful face which will crown our handsome statue. That is to say, he took for his groundwork the reputation and works of Hahnemann, and from and upon these he prepared the present face and head of the father of our school.

Along this same line of thought I propose to work in this paper; namely, that as a man is, so is he in his body and face, not only physically, morally and mentally, but medically.

Homœopathy—the old-fashioned, original Hahnemannian Homœopathy—means the totality of the symptoms. Not a blue-grass diarrhœa here or a saw-palmetto headache there. It must be the whole picture of the patient cured by the whole picture of the remedy. So that when we alternate, it is because we assume as true what is known to be a medical and mathematical fallacy: that more than one object can occupy the same place at the same instant.

Medical science is not absolute. Given the same causes, and we have the same effects. Given pretty nearly the same causes, and we necessarily have pretty nearly the same effects. And that is the limit of our power. We are governed not by the individual case, but by the class of cases. One brilliant operation does not make the surgeon, any more than one case of measles cured with one dose of Sulphur in the *DXYM* potency constitutes a Homœopath. Not every man with a silk hat, a preoccupied air, a Sunday-school smile and a small satchel is a Homœopathic physician; he may be a piano tuner or a drug agent. Not every red nose is a rum blossom; it may be from tea, tight corsets, heart disease, weeping or even a blow on the nose. Not every Belladonna patient has a red face; it may be white. Not every tall man is a Rhus or Phos. patient; he may be Nux. But under the rule of average, or composite, or type, it is safe to assume that the genteel party with the shiny Prince Albert and obstetrical satchel is a doctor, and the tall man is a Phos. or Rhus patient.

Let us proceed logically. Man is born to die. Therefore not even Homœopathic medicines can always save him. All disease is the beginning of death. Every attack of illness renders him the more prone to a succeeding and ultimately fatal attack. He is born with all the possibilities and imperfections of his ancestors, whether they date from Adam or from æons before. He is marked by his inheritance as tall or short, fat or lean, acid or alkaline, scrofulous, tuberculous, syphilitic, rachitic, red haired or dark haired, blonde or brunette, and so on, and so on, so that it requires very little of medical knowledge to read his characteristics. He dies from exhaustion, disease or violence, voluntary or involuntary.

Arsenic will destroy life. In this process of destroying life, the face as well as the body takes on certain colors and distortions,

which to the trained observer give prompt evidence of the wrong and its cause.

If, then, nature, our most inhuman step-mother, marks the face with the inherited tendencies; and drugs and poisons, as well as disease or death-dealing particles do the same to the body and face, then it follows that the face is index to the contents of the man. Further, if this be true of the death-dealing dose, then a given quantity short of the fatal dose will also mark the face and body, as we know it does, for that is the Homœopathic proving.

Further still. A child is born not alone with a scrofulous constitution or a sanguine temperament, with a caul or a possible silver spoon, but also with a Homœopathic remedy prominent in its face and make-up, and which to that child is the corner-stone of health. Just as we know that a patient will have Arsenic symptoms without having taken the actual Arsenic, so we know that other remedies may be simulated by the well as readily as the sick body, and these be characteristically marked in the face.

There is running through all the works of our beneficent Creator a law of homogeneity—the law of one-ness, each after its own kind, but in that kind it is similar though not the same.

A man who pastes his hair down on his forehead and does not brush it behind is the same man who polishes his shoes at the toe and forgets the heels. If he has beer or soup or coffee spots on the lapel of his coat or vest, he will have beer and coffee spots in his general constitution. If a woman is slovenly and untidy in her outward apparel, you may be sure to find her careless and shiftless in other ways, and probably given to writing postal cards with a scissor-sharpened lead-pencil. A man whose stomach is the principal feature of his face will be a greasy, easily-perspiring individual, a lover of good things to eat and drink, and not overly particular about the little moralities. A man with excessive brain development will not likely need sexual remedies, because, the blood being life, and there being but a certain quantity of blood in the body which cannot be in two places at one and the same time, that blood goes to the part of the body which calls for it most, whether in the blacksmith's arm, the surgeon's fingers or in the materia medica man's brain. A man with a lecherous eye or a libidinous lip may have considerable brain power, but the trail of the serpent is over it all.

To come back again to the birthright. A child being born with Bryonia characteristics of form and color may have value to the

observing physician. What is that value? It does not mean that this present child and sometime man or woman can never have any other remedy given to it but Bryonia. That would be a delightfully easy way of practicing medicine. It means this: That a Bryonia temperament may need Bryonia at times, to be sure, but it means more than that; it means that however many medicines are given this Bryonia temperament, on the proper Homœopathic indications, that person can never be made well or stay well until the Bryonia temperament again asserts itself. In other words, that child's standard of health is Bryonia, the characteristics of which are written in its face and upon its body. Just as each person has his own standard of appetite or taste, of digestion, of bowel movements, of sleep, etc., and when he gets well he returns to his medical temperament as he returns to his red hair, his crooked nose, his cork leg or his hunchback; in short, to his individuality. It means a little more yet. If the intelligent physician knows his lesson and recognizes this medical characteristic of his patient, then he also learns very soon that the Bryonia patient commonly deviates from that health standard in a certain line, for which certain other well-known remedies are usually indicated. Here, then, comes in the value of the concordance part of the repertory given us by Allen and others. This calls for a knowledge of the sequence of remedies spoken of so frequently by Van Denburg. One of its more practical values, aside from what is apparent upon the face of the thought, is that after a physician has once been thoroughly established in a family, so that he is acquainted with each member's physical organization, when medicine is requested for Jennie's cold or Tommy's stomach-ache he requires to ask but few questions in order to reach a prescription. Then he will no longer send a dose of Ipecac to each case of chills and fever unless he has already seen the patient. Then he will no longer send Sepia to every spoilt case of chills and fever. Then he will no longer send a dose of Sulphur to take the place of his presumed knowledge and study of the case.

One of the chief criticisms offered last year was that this mode of teaching materia medica would require the putting of an artist into the *toga virilis*—the Oxford gown and mortar board of the materia medica teacher.

I insist that when I send a student to a medical school I send him there to get the very latest knowledge in every branch of medical science. I want him taught how to unravel that most complex

of all earthly problems, how "to restore health to the sick, which is called healing." It is necessary not only that he shall attend the twelve or fourteen chairs of mechanical specialties, and secure thereby the latest technique in operations, but also that he shall learn from the two or three almost accidental medical chairs how to learn and how to apply Lycopodium and Pulsatilla. Indeed, in my unreasoning fanaticism I go further and say I believe it far more necessary that he shall know when and how and how much to give of Lycopodium and Calcarea carb. than it is for him to know how to saw off a leg or take out an appendix. If it be proven necessary that each materia medica teacher shall blow a B-flat cornet or wear a sky-blue coat with brass buttons all down before, then that cornet or that sky-blue coat will be as sure of finding its way into the lecture-room as it is that an infinitesimal dose of Arnica given high and dry on the tongue will not set a compound comminuted fracture of the hip, or that a gynæcological operation unsexing the gentler sex will certainly cure her ills. If it becomes necessary to the better understanding of the medical weather prognostications, that the teacher shall know enough to come in when it rains, then precious few will get drenched to the skin.

It is not the intention to rudely invade the sanctity and disturb the serenity of the old teachers who are "still voting for Jackson." The one hope indulged in is that something a little different may be added to the everlasting sameness of the manuscript lectures in their portfolios. Make the teaching of materia medica attractive, so attractive, indeed, that even a first year's student will as willingly listen to it as he would attend a brilliant operation in the surgical amphitheatre. The older practitioners in this Institute remember how utterly dead, dry and tasteless the materia medica was in their time. If this plan of mine is practicable, and I believe it is, then we can shortly dispense with the one-symptom-remedy given high, very high, with forty-three days' time in which to work out its own salvation, as well as with the carrying of a wheelbarrow load of books to the patient's bedside. It would give a knowledge of materia medica which could not be left at home in the roll-top desk, or stowed away in a japanned box with the family silver in the burglar-proof safe, when one wants it at half past two o'clock in the morning, with seven and three-quarter miles of clingy, yellow mud, fetlock deep below, and a dismal, starless, forbidding sky above, intervening between that roll-top desk and the patient.

DISCUSSION.

A. C. COWPERTHWAITE, M.D., Chicago, Ill.: I was favored in advance with a copy of what was probably this paper, but I would hardly have recognized it after hearing it read and seeing the illustrations. Reading the paper is vastly different from hearing it read and seeing it illustrated in such a practical and remarkably artistic manner. I am not an artist, and should hardly have consented to discuss the paper had I known in advance as much as I know now. I feel a little sore that my picture was not with the others, but if it had been, the author would probably have found some feature which would prove that I could not teach materia medica. A long time ago I was superintendent of a Sunday-school, and the subject for the morning lesson was the "Golden Calf." I made up my that I would win laurels as an artist by illustrating the lesson with crayon. I had the black-board brought into the room and quickly, beautifully and accurately drew thereon the golden calf. Then I turned and very foolishly asked the class, "What is this?" and one little fellow replied, "It is a pig." That ended my career as an artist. I do not feel competent to discuss this paper. Every one of us understands the susceptibility, the ardent temperament and the sandy complexion of the Nux patient. The first-year student can pick out the Pulsatilla girl. We are all familiar with the Sepia man. I tell the class that he reminds me of the man who is content to stay at home and wash the dishes while his wife runs a store or practices medicine to make a living. If you can place a proper picture on the board, you can also implant it in the mind of the student so he will never forget it. That teacher of the materia medica who expects to impress upon the minds of the students a picture of the drug merely by reading over its symptomatology does not understand the training of the young mind. Dr. Kraft has the right idea in this line, but he has carried it rather too far. But the idea is there, and the man who goes to extremes carries his point. If we would take up the study of a drug from life, rather than from dry symptomatology, we would get a clearer idea of it, and it may be that the time will come when we shall even reach the extreme pictorial method advised and practiced by Dr. Kraft. We have been highly entertained, and I thank Dr. Kraft for the work he has done in bringing this matter before us so ably and accurately.

H. C. ALLEN, M.D., Chicago, Ill.: This is a difficult paper to discuss. The pictures of the materia medica—this is the class of pictures needed by the student, and which the practitioner should carry with him—showing the idiosyncracies, the peculiarities of the patient, his type and disposition. The one who can distinguish these types and apply to them the peculiar similar type of the remedy is the one who will do rapid and successful work. It has been found true in practice, or largely so, that there are certain remedies peculiarly adapted to certain nationalities, as well as

types of physiognomy. Bryonia is nearly always the remedy for a majority of certain diseases in the negro; it corresponds to the diseases of the climate to which they are indigenous. This anecdote is told of the late Jno. F. Gray, M.D., of New York, a close and accurate observer. A patient came from Cuba to consult him; the doctor saw him while passing through the reception-room, and said to his clerk: "Prepare some Argentum nit. for him; I am in a hurry." This did not suit the patient, who said: "Doctor, I have come from Cuba to see you, and I prefer having a complete examination; I am willing to pay for it and want it thoroughly done." It came out, from the examination which followed, that his face was the correct indicator of his remedy. It is so with many patients. The face indicates the remedy, and the totality of the symptoms will confirm it. It is a rapid method of prescribing, which, however, may be relied upon only after years of close observation and study.

A. L. MONROE, M.D., Louisville, Ky.: I have enjoyed the paper very much. We all have our ideas of teaching materia medica, and while I think the plan suggested by Dr. Kraft a very good one, it should be supplemented by word pictures and striking illustrations. He will agree in this, for he follows the same plan. It has been my custom to place several paragraphs on the blackboard, showing the grand central characteristics of the drug, around which others radiate and to which they are tributary. For instance, with Aconite the grand characteristics would be tension; first acuteness, then tension. The most acute condition you can think of. Looking to acute sudden causes, as exposure to extreme heat or cold, traumatism of sudden emotion. There is an extreme physical tension, arterial tension, mental tension, rapid heart beat, rapid and strong pulse, which does not yield under the touch, but is tense and hard. This is associated with pent-up secretion, rapid combustion and rise of temperature; there is also a condition of mental tension and anxiety. So we have the Aconite fever following acute causes, the acute condition proportionately evanescent and with suppression of secretions. The sudden, intense fever, dry skin, constipation, suppression of urine and great anxiety. Take Pulsatilla—the wind flower—the patient is wafted about by every wind; bland in disposition and could not with that nature excrete anything acrid in quality, either in thought or material. But this would not cover all the Pulsatilla symptoms. You may say that this patient is "fair, fat and forty," like Calcarea. Pulsatilla indigestion is from pork, pickles and pie, all commencing with "P." Chamomilla patient is cross, crabbed and generally a child, probably with catarrh of the bowels. So I frequently take the letter of the alphabet with which the name of the drug commences and impress the striking symptoms commencing with the same letter.

ROBERT WALTER, M.D., Walter's Park, Pa.: There is one remark made by the essayist to which I wish to refer, and which I propose

to controvert. That is, that disease is the beginning of death. I deny that it has anything to do with death. Disease is a process of life; this was the thought and doctrine of Hahnemann, and is in intimate relation to the law of *similia*, universal in application. This law, which is eternal, was given voice to, thousands of years before Hahnemann, by Him who "spoke as never man spake," when he said that "He that exalteth himself shall be abased, and he that abaseth himself shall be exalted," "Whoso loses his life for my sake shall save it," "Who would be poor shall be rich," and "When I am weak then am I strong." Hahnemann's law is a special application of the same principles to medicine. We have heard a paper this afternoon dealing with the law of similars which gave us no logical basis for that law, though its title required it—a paper written by an able man and filled with admirable facts which strengthened our faith, but if I were an Allopath I should not like anything better than to take that paper and tear it to shreds. I find Homœopathy to be in the same condition that science was when Keppler and Galileo were teaching their theories; the truth of astronomy was not established until Newton gave forth the law of gravity. So when the law of life is set forth, and not until then, will we discover that disease is a *natural process of cure* and not a process of death.

T. C. DUNCAN, M.D., Chicago, Ill.: Fifteen years ago such a paper would not have been listened to with such close attention. This is along the right track. In my lectures on "Practice" at the National Medical College I take the model man, and from him trace the deviations—so we may trace the materia medica pictures as they have been traced so ably by Dr. Kraft. Some of you may remember a few illustrated materia medica cards which made their appearance some fifteen years ago. I was connected with a publishing house then, Duncan Bros. The first showed a short man with a piece of paper in his hand and evidently in a great hurry, just as the sun showed over the house tops; this was labelled "Sulfur, 4.00 A.M." It was accounted a success. The next was a tall, spare, stoop-shouldered man, who waited while the cur dog by his side squatted and ——; this was labelled "Phosphorus." When it reached the East we received a number of letters threatening us with damage suits if we published any more caricature pictures of Henry N. Guernsey. Those who saw it will never forget the picture of Phosphorus. The artist was unknown, so when he could not be found we had no one to fall back upon and no more were published.

The Application as Well as the Similar.

By C. F. Menninger, M.D., Topeka, Kan.

Wherever we turn our eyes we behold in the phenomena of nature an orderly sequence of events. Not the slightest change takes place but what it follows the laws of the universe. Everything is regulated by law, from which no departure is possible. If the law were violated, the most dire results would be occasioned. Not a single thing transpires but what it is the result of some antecedent cause, and in turn becomes the cause of some succeeding state or event. All the phenomena in the sick, as they pass from the state of health and back again to health, proceed according to systematic and orderly processes. The effects of medicines upon the human body, in like manner, are orderly and according to established rules. Chance has no place in nature, no existence in the universe of facts. Uniformity of manifestation, definiteness of results, reliability of answers from interrogated nature, all depend upon the reign of law in the universe. While this is acknowledged by most intelligent people in a *general* sort of way, yet how frequently they may be seen trusting to luck or chance. They hold it true as a grand principle of this universe that law reigns supreme, and yet in specific cases throw themselves and their hopes upon the mercies of blind chance. Our profession is full of this class of persons. There are many who, forgetful of the universality of law in nature, and especially of its operations in health and disease, cast aside all safe and reliable charts, compasses and guides and strike out on "general principles;" in other words, go it "*a guessing*," "*trust to good luck.*" This is wholly unnecessary and unwarrantable, for we have overwhelming evidence of the existence and truth of the law of similars by the only real test of its truth, namely: By the practical results from the application of the law.

The requirements of the application of the law of similars are very difficult and exacting. Herein perhaps may be found some reason for the abandonment of this law and the resort taken to empiricism. It is no easy matter to conform to all the mathematic requirements that constitute the Homœopathic law of cure. It is

an easy matter to resort to "general principles." But how varied the results! The one has demonstrated the existence of the great law of therapeutics—"*similia similibus curentur*"—the greatest boon God has given to disease-stricken men, and the other has been as barren of fruit as the desert of Sahara.

The severest tasks that are required by the application of the law of similars are the taking of the case and making a record thereof, and the selection of the similimum. Time and again these have been brought before you in masterful ways. They are subjects upon which the brightest stars that adorn our intellectual firmament have enlightened us. The lines of conduct in these particulars are fairly well mapped out, and little or no difference of opinion exists between us upon them. Intimately associated with them, however, is the question of the application or administration of the similimum.

I take for granted that the paramount consideration in the cure of a patient is the selection of the remedy whose effects upon the healthy human body is most similar to the totality of the symptoms of the case, but maintain that the proper application of this remedy is absolutely necessary to achieve the highest degree of success.

We have a law for the selection of the remedy. Equally as much cannot be said for the administration of this remedy. Disease processes come and go in no haphazard manner, but always according to definite laws. The action of medicines in restoring the sick to health also proceeds in definite ways, according to fixed laws. No accidents or chance enter into these processes. Yet the application of the chosen remedy by the majority of practitioners is considered inconsequential. A rough classification of all practitioners of Homœopathy who adhere strictly to the giving of the single remedy may be made as follows:

1. Those who give but one single dose of the selected remedy and then wait and watch for results.

2. Those who give the selected remedy in several doses, either a definite number, as three or more powders, or a repetition of the remedy until amelioration is observed, and

3. Those who give the selected remedy with instructions to take it every two or three hours until all is taken, and without instructions to cease taking it when improvement is noticed.

It would be impracticable as also almost impossible to attempt to classify the practitioners of Homœopathy who give two or more

remedies either in alternation, combination or rotation. They do nothing to the advancement of scientific therapeutics, and are therefore unworthy of further consideration.

But why this variation of those who are strictly in the line of scientific advancement of therapeutics? Wherein lies the point of their disagreement?

These three classes may be subdivided into two.

1. Those who believe—know from experience—that the health-restoring potentiality of the dynamic agent, the selected remedy, will become health *destroying* by its over action. They believe that a dynamic agency is required to overcome a dynamic disturbance of the vital forces; that when these forces are most similar and acting in opposite directions, disease is obliterated, and that when that dynamic disturbance (the disease) is obliterated or overcome, damage may be done if the selected remedy is allowed to continue its action.

2. Those who believe that the selected remedy becomes impotent as soon as the distuned vital forces are brought back into the harmony of health, and that the continuance of the remedy after amelioration has set in *is not harmful.*

Whether they believe this because they have observed it by scientific investigations is not necessary for me to prove. The fact remains that there are those who belong to this second category, whatever be their belief, observation or explanation.

As an independent investigator I desire to add my weight of testimony and observation in this field to the support of those in the first category. These dynamic agencies—the selected drug cannot be given without their not having any effect. This is manifested not only in the restoration of the distuned vital forces into the harmony of health, but also when continued after the onset of improvement as well as when taken in comparatively perfect health.

It has been my observation that the continuation of the indicated remedy after amelioration has set in has universally brought on aggravation of old symptoms and the appearance of new symptoms; that diseases were rendered more difficult of cure afterwards and causing them to be greatly protracted.

From observations made I was able to reduce also some definition of a dose. It was seen that in some instances it required but one single giving of medicine in order to restore the deviated vital forces to health. Improvement was apparent in but a few minutes after the giving of the selected remedy. This continued uninterrupted

until the usual good health was manifested. Again, it was observed that it was necessary to give the selected remedy two, three or four times before any appreciable improvement was manifest. These occurred in all severe organic lesions, those resulting from some violently acting poison; also in all such organic lesions where a continued irritation was maintained.

From these observations we would say that a dose is the minimum quantity of medicine which produced the desired effect, it being granted that the selected remedy was the similimum. It was also apparent to your observer that the injunctions given by all of the masters of our art, that the giving of medicine must cease as soon as amelioration is manifested, were based upon scientific investigations, that this injunction was borne out by the serious consequences resulting wherever it was violated.

These observations and the few deductions that we were able to make so impressed themselves upon me that as a young practitioner I desired to relate them, and perhaps they may assist some one else young in the practice of the science of therapeutics. The application of the selected remedy is of sufficient consequence to warrant its consideration. "Homœopathy is nothing if not true, and, if true, the greatest accuracy of detail and method should be followed." I have found that the element of success in Homœopathic prescribing lies in the closest study of the details, the faithful writing out of all the symptoms of the case and noting the effects of the minimum dose of the single remedy.

Discussion.

T. F. Allen, M.D., New York, N. Y.: The question of the application of the remedy, repetition and dose is one which occupies a great deal of our attention. My own experience has been based upon careful observations within my own family primarily. My daughter was formerly a terrible sufferer from hay fever, coming on about the 15th day of August of each year. The mucous membrane of the nose became extremely sensitive to the pollen of plants, so that no flowers could be kept in the house. Her remedy at first onset was Sabadilla, and I conclusively demonstrated that the best results could be obtained only by allowing her to smell of a vial of the 6x once. I should not have dared try this method outside my own family. Then Aranea seemed indicated, and a dose a year for three years has cured the hay fever. Now when I take cold it assumes the form of influenza, and my remedy is the Iodide of Arsenic. I tried taking a dose of the 3x or 6x, medicated pellets, every hour or two, but it did not work at all well. Now when I get one of these attacks I shake up a vial of the 6x and smell it, and that is the last

of the influenza—I am generally rid of it within twelve hours. That was the beginning of my experience, and I should like, if I could, to follow Hahnemann's method of olfaction. But, with the hold I have on my patients, with the intimate relations of thirty years as physician, I do not dare go into a family and give remedies that way; I must buy shoes for grandchildren now. I believe it is the best way. After my experience with Belladonna in sore throats and scarlatina, I rarely repeat the single dose unless I re-examine the patient. From sad experience I have found that when Belladonna is the indicated remedy at the onset, with symptoms well marked, if it is repeated, the patient becomes better and then worse again. Now I give the single dose and follow with placebo, unless the patient is well educated in Homœopathy, when I am able to give the single dose without placebo. Or I may tell them that I am giving a medicine for a certain purpose and that it is a poison; an overdose will do harm. In that way I guard against repetition. Of late years I have come to practice in this manner in acute cases, and am adopting the same line more and more, year by year, in chronic practice. In chronic cases I am apt to give them three powders to take before meals, and follow with placebo. I give the three doses to make sure that I get an impression. Probably one dose would do as well, but I like to make sure, although I frequently give the single dose on the tongue, then follow with placebo. In this way I am sure that I get the first impression from my remedy, and do not get a proving of the drug or mix the symptoms. Patients with whom I am not well acquainted may be especially susceptible; they may and do get the provings of the drug, for I do not give the high potencies—usually the 6x or 9x with, occasionally, the 30x. I have one patient suffering with locomotor ataxia, the general manager of one of the large railway corporations, who has walked with two canes for eight years, but who still continues at work and gets no worse. Sometimes an acute exacerbation will call for a little Causticum or Alumina, but they have a small case of remedies and the indications therefor which they carry with them all over this country and even to Europe. He never gets more than the single remedy at a time. His attacks grow less frequent from year to year, and he is pronounced, by a distinguished neurologist in New York, better than he was six years ago, although I suppose the sclerosis will always remain. My experience is all in favor of the single remedy. I avoid repetition, for it gets me into trouble, and will do the same for you. You may even get drug-effects from a high potency in an extremely sensitive person.

M. DESCHERE, M.D., New York, N. Y.: Dr. Allen's claim for olfaction after Hahnemann's instructions is true, as evidenced by my own experience; I have had the most satisfactory result from Ignatia administered in this manner in the case of my mother. She has had several cataleptic seizures, during which, although wholly conscious, she was incapable of moving—even swallowing was an impossibility. After studying the case, I allowed her to inhale Ignatia, and the re-

lief was almost immediate. I did not want to trust this evidence without a further test. I tested her in subsequent attacks with plain alcohol, Cuprum, Belladonna and other remedies, but not until the Ignatia was exhibited did relief follow. I proved to my own complete satisfaction that Ignatia was the remedy, and that, administered by olfaction, it would act promptly. Since that time I have used this method in the convulsions of children, even in convulsions from congestion or in reflex convulsions, and have never been sorry for doing so. The doctor, in his paper, uses the term "minimum dose." I do not like this term in Homœopathy; the Homœopath does not *dose* his patient. It is a very good term for the Allopaths, who use a maximum and a minimum dose, but should not use it in that sense. The very fact of potentization does away with the necessity of the term. We are dealing with molecular forces. We heard a lecture on the X-ray last night; by separating the molecules you get a greater action. By potentizing the remedy you separate the molecules of the drug and get an action which cannot be realized from the crude drug. This does not necessarily refer to the "high" potencies either. I would suggest that instead of the word "dose" we use "application of the remedy," and further particularize it with regard to the potency by calling it the "degree" of molecular separation. In a paper which I had the honor to read before the Connecticut State Society, I made reference to experiments upon the surviving organs of animals, which means an organ removed from the animal immediately after death from exsanguination. This organ is placed in an apparatus and the defibrinated blood of the same animal is at once permitted to pass through it. It was found that one one-hundred-millionth part of Digitaline, in proportion of the quantity of the blood used, was capable of producing remarkable effects upon the blood-vessels of the organ. One ten-thousandth of Digitaline was capable of producing the immediate death of the organ experimented with. If we find that drugs in so minute quantities are capable of markedly affecting an organ separated from the body, where reaction is necessarily slow and almost extinct, how much more powerfully will it act in the living organism, with its full reactive power behind it? Again, it is found that in these experiments the remedy, or poison, acts directly upon the protoplasm of the tissue, consequently we have the right to say that the Homœopathic remedy acts by molecular force upon the protoplasm of the tissue-cells. Or we may call Homœopathy the "*cellular therapeutics*" in harmony with "*cellular pathology.*" Potentized drugs *have* an action, and the degree of potentization is immaterial; even the very highest potencies act, and we cannot doubt it. There are four factors to be considered in drug therapeutics: (1) The individuality of the patient; (2) the individuality of the disease; (3) the individuality of the drug; and (4) the individuality of the doctor. All drugs do not act with the same force upon an organ or organism. All organisms are not equally susceptible to the action of drugs. All diseases are not equally manifested in the same organism. You cannot induce some doctors to try the high potencies;

they say they cannot be successfully used, because they never try them. We know that potencies act, that high potencies act. Just how they do it we may speculate upon, but I do not like theories. Only those who use drugs potentized have the right to judge of their effect.

GEO. ROYAL, M.D., Des Moines, Ia.: I should like to emphasize one point which, I think, is hardly appreciated by the younger men. When I left college I went out with the impression that the application of the remedy should be more frequent in acute than in chronic diseases That the acute disease was like an enemy which must be overcome by several charges, before he would take himself away. The chronic disease, on the other hand, was supposed to be like an enemy intrenched but asleep, where the attack need not be repeated in order to overcome him. My actual experience has been to the contrary, and I believe that the remedy needs more frequent repetition in the chronic than in acute diseases. It is as if the enemy was scattered about over the field with a straggler here and there, and you must send out the remedy more frequently to rout him completely.

H. W. PIERSON, M.D., Chicago, Ill.: In the discussion of the application in the treatment of the sick there were two thoughts brought out in the paper and the discussion. One was taken up by a preceding speaker, with reference to the dose; the other by the last speaker, with reference to the character of the disease. If you will study your cases carefully, you will recognize the fact that there can be no such thing as an acute disease in a person who has reached adult life. That each so-called acute attack is but a manifestation coming from some existing cause, and to remove these manifestations you must be governed by all which has preceded; the manifestations were but an expression of that which controls the life of the patient. When you have gone over the history of the case you will find certain characteristics cropping out, and in the selection, not of that which will relieve the present manifestations, but which will prevent their recurrence, we find the highest duty of the physician. The man who seeks to satisfy conscience by suppressing or removing present pain, is losing the grandest pleasure to be had from the scientific investigation of disease in all its manifestations. When you get into the study of a case in this way it opens up a field for investigation you little dream of. One line suggests another beyond, which must be reached before we can be satisfied with our work. The question of the application of remedies in the cure of disease closes only with death.

H. C. ALLEN, M.D., Chicago, Ill.: When we think for a moment about the administration of remedies by olfaction, or in the single dose, for the removal of disease, it is not such a wonderful thing after all. How does your patient become affected by scarlet fever, measles, whooping cough, smallpox? Is it not by olfaction? How many

doses does he require? Just one. How many doses does a patient require to contract a genuine case of syphilis? Just one. If we follow the indications of nature, as Hahnemann told us, we shall see it in a different light. He told us never to repeat the remedy after the patient began to improve. I am very glad to hear it brought out here that the single dose is capable of doing its work in any potency; it is true in both acute and chronic diseases. It was a long, long time before I learned this lesson; I find many practitioners who have not yet learned it, but, after they have given the remedy, keep it up hour after hour. One dose is often enough; why not follow the indications of nature?

Another thing in relation to chronic diseases. The most difficult factor in the treatment of chronic diseases is the making of the second prescription. To know just when the first dose has exhausted its influence, when to change the remedy, or to repeat if the symptoms call for it, is a fine point, because all chronic difficulties recede in inverse order of their coming—the last to appear are the first to disappear and *vice versa*. Sometimes it may require two, three or four remedies before we can eradicate the trouble, but when to repeat the remedy, or to change it, is a difficult problem to solve. I have spoiled many a chronic case by repeating the remedy. The symptoms never return except in a mixed form. Instead of allowing these cases time to clear up. we expect them to clear up in a few days. It takes time, time, time, and as long as the symptoms disappear in the inverse order of their onset, let the patient alone and he will get well.

Materia Medica of 1796 and of 1896.

By W. J. Hawkes, M.D., Chairman of the Section, Chicago, Ill.

In looking backward through our hundred years of professional life, we, as Homœopathic physicians, have many reasons for self-gratulation.

Time, the inexorable enemy of falsehood and firm friend of truth, has only testimony in our favor as workers under a therapeutic law. The opposite is true concerning systems based upon the less secure foundation of conjecture and empiricism.

It can truthfully be said of all the hundreds of medicinal substances proven and in use by Hahnemann a hundred years ago, and by his followers during the century, the close of which we now celebrate, that not one has been laid on the shelf as useless. Each one does its work as well and promptly to-day, under like conditions, as it did at any time in its history. It is not said or written of any one of our medicines that "Dr. So-and-So found this drug useful in such a condition, but that it has utterly failed in *my* hands to afford any relief in the same disease at the present time."

Given in accordance with our law of practice, it does its beneficent work as well to-day as it did at any time in the past.

Not so with the numerically dominant school. Take, for example, the national dispensatory of the Old School—of the vast number of drugs used during the past 2000 years, and described between its covers, 90 per cent. are spoken of as having been tried and found wanting; that such a drug had been used by Dr. So-and-So at such a time in the past, in a certain disease, with such and such good results, but that it has utterly failed after repeated trials in the same disease at the present time. The drugs are the same as they were during these 2000 years; no change has taken place in the nature of medicines; the laws of nature operate as of yore; man in his essence has not changed; drugs act upon him now precisely as they did then.

Why, then, this reported impotency? Why this failure and this paucity of results? Why are all these formerly active drugs labelled "useless" and laid upon the shelf?

The explanation is clear to us who have the light of law and sci-

ence to make clear matters pertaining to materia medica and therapeutics, viz., while the "disease" may have all the recognized pathognomonic ear-marks of a hundred or a thousand years ago, or of yesterday, the *genius epidemicus* may be very different; the individual idiosyncrasies may have materially changed; the environment may be altogether new. And hence the peculiar phenomena observed in the sick may be altogether different, and point to a different remedy or class of remedies.

These variations in what are called by the other schools minor symptoms, and which mean nothing in a therapeutic sense to them, are significant to us, and afford the means of determining when a remedy may be presumed to be useful.

They depend upon the name of a disease, without regard for variations of peculiar pathological phenomena or idiosyncrasies of patients.

We depend, on the other hand, upon the totality of the pathological phenomena, laying greatest stress on the so-called minor or non-pathological symptoms, the name of the disease being of only secondary importance. Hence, season-changes, novel environment, or idiosyncrasies of individuals do not mislead us.

There is no better evidence than this that we are governed by law, and that the others are not.

The experiment of the shrewd western physician nicely illustrates this fact. He wrote twenty identical letters to ten representative physicians of each school, in different cities, detailing an imaginary case, and asking a prescription. All of the ten Homœopaths prescribed the same remedy. Each of the Old-School ten who prescribed made a different prescription! And several of these were proprietary compounds—patent medicines.

Further comment would be superfluous.

There have sprung up indications, however, within the past ten or twenty years, that some progress has been made in the materia medica and therapeutics of the Old School. Most of these have evidently been taken from Homœopathic works, although this is in some instances pointedly denied by the authors.

The recent works on therapeutics by Bartholow, Phillips, Ringer and others contain many "discoveries" of new remedies, and new curative powers in old ones. They have "discovered" that Mercurius will, in small and oft-repeated doses, cure dysentery; that Ipecac. in small doses will cure some kinds of nausea, but "wonder why it fails in others!"

They have discovered that Pulsatilla cures some kinds of amenorrhœa, but wonder why it does not cure all. They have even discovered that Belladonna cures and prevents or modifies attacks of scarlatina, but say it fails in many cases, and wonder why. We could tell them why. We have already, over and over again, in our literature told them why.

They have stumbled upon some of our beneficent facts, but have utterly failed to grasp the underlying law which makes the facts a scientific necessity.

They have found by chance in the bed of the stream some of the glittering grains, but have failed to trace them to their source in the gold-laden quartz of the mountain above.

Still, the signs are hopeful for their future.

Their studies of such drugs as Arsenicum, Aconite, Belladonna, Mercurius, etc., as recorded in their recent works, and embracing the pathogenesis and therapeutics of these drugs, make fair Homœopathic reading. The dropsical symptoms of Arsenicum, and also those of the skin and alimentary tract, as well as the asthmatic symptoms, are perfect, except in the finer characteristics.

They are studying carefully the physiological action of many of our most common and useful drugs. But no credit is given for their "discoveries" of our sun-burnt truths.

In our own school I doubt if so much progress has been made, chiefly because there has not been so much room for radical progress. While the Old School is coming out of the chaos of empiricism into the order of law, we can only trim and simplify—we cannot improve the law itself. A considerable number of new and valuable drugs have been proven since the first publication of Hahnemann's *Materia Medica Pura*. Such remedies as Baptisia, Lachesis, Lilium tigrinum, Glonoine, etc., are valuable additions to our armamentarium. Much has been done, also, by such workers as Hering, Bœnninghausen, Lippe, H. C. Guernsey, Raue, Farrington, and others, in the line of verifying and emphasizing the most characteristic symptom of each drug. The progress made on this line is only less important than are the valuable original provings. To this the bewildered student and beginning practitioner will bear glad testimony. The value to much of this work is inestimable. These emphasized symptoms are as the finger-boards at the intersection of many roads.

Much, also, has been attempted in the direction of pruning the materia medica of its real and presumed dead branches. The most

pretentious and recent of these in literature is the *Cyclopædia of Drug Pathogenesy.* Judging from my own study of this work, more good fruit than dead branches have been lopped off; in the "sifting" process more wheat than chaff has been eliminated.

Therefore, while it is acknowledged that the need is great, and the effort here is earnest and honest, yet the net result to the student who would get the best results, less good than harm has been done by this work.

The task undertaken by its authors was an extremely delicate and, indeed, almost hopeless one.

The claim that medicine should be an exact science cannot, in the nature of things, be sustained; and the efforts to make it so cannot succeed.

In order that it could be so, drugs must be proven upon healthy human subjects, living uniformly in a natural state. But there are no perfectly healthy subjects in the human family in civilized life to-day. Neither are any living in a perfectly natural manner. A little reflection will convince the least observing that *art* encompasses us all about during every moment of the twenty-four hours of every day and year.

In order for medicine to be an exact science man must be infallible and truthful; else how can we have *exact* provings made and truthfully reported. But it is said that "we are all poor, weak, miserable sinners," and that "all men are liars."

Hence it is impossible, this side of the millennium, to make medicine an *exact* science, notwithstanding it is governed by natural law.

Therefore Rule VII of the *Cyclopædia*, which says, "include no symptoms reported as coming from a drug administered to the sick," must be taken with grains of allowance, for all the provers were more or less sick. Where shall be drawn the line between the little sick and the much sick, on one side of which the reported symptoms shall be "culled," and on the other classed as "A 1?"

For *exactness* such a line cannot be drawn. For our science as it is, and must ever remain, such a line may be drawn, but it must be elastic, and its elasticity must be so great as to include clinical symptoms.

All standard works on materia medica in our school down to the issuance of the *Cyclopædia* contain "guiding symptoms" in black type, or marked in some other way to attract the eye of the student. Symptoms regarded by such writers and students as Hahnemann,

Hering, Lippe, Guernsey, Farrington, Raue and others are emphasized in some manner as an aid to the student.

We find no such help in the *Cyclopædia.*

When we contrast Hering's *Guiding Symptoms* as a complete and reliable and helpful work on materia medica with this book we cannot but be impressed with the infinitely greater value of the former.

Again, all clinical symptoms are ignored in the *Cyclopædia.* No materia medica which does not include these can have any good claim to completeness.

When, as has been shown above, it is impossible for us to make medicine an exact science, it would seem unwise to exclude any reasonable aid in gathering from any source within our reach. And when it has been observed by conscientious and erudite students, and repeatedly verified by themselves and others, that a given symptom, not in the record of drug provings, uniformly disappears under the action of a given drug, is that symptom not as reliable as an indication for that drug as are any of the symptoms resulting from an inexact proving? Is a materia medica which leaves out such symptoms equally valuable as a guide for students with the work which includes and designates them? I am sure it is not.

Hence, while the *Cyclopædia* may be a correct registry of drug provings, it is lame as a materia medica, and is not an improvement on earlier works.

The ninth instruction reads: "Include symptoms as coming from attenuations above the 12th decimal only when in accord with symptoms from attenuations below."

As a record, pure and simple, of drug provings, this is wise. I am convinced that a very small proportion of persons who are called healthy can receive appreciable drug impressions from the 12th or higher dilutions. I have repeatedly tried on myself and others in average health to produce pathological symptoms with such preparations, but without satisfactory results. There is no record of drug symptoms having been produced upon the lower animals by these potencies.

To exclude from a *therapeutic* materia medica, however, all symptoms credibly recorded as having been produced upon members of the human family by the higher potencies is, in my judgment, a grave mistake, and one calculated to greatly impair its usefulness.

The same kind of conscientious experimenting which convinced

me that such potencies do not produce pathogenetic symptoms on the healthy has satisfied me that they do produce curative effects on the sick; that while they are incapable, as a rule, of appreciably affecting the health of the healthy, they are potent to appreciably influence the sick.

I believe, also, that a considerable minority of provers are so preternaturally sensitive as to be capable of receiving appreciable effects from the higher potencies, and that these symptoms, instead of being cast out as unreliable because of their infrequency, should be given high rank as valuable indications.

I believe, further, that most of the symptoms recorded as having been produced by potencies have been the result of curative action on their part; that they were in great measure caused by the reaction of the natural vital forces after having been freed from the deranging influence. (Some cause for aggravations.)

A study of the *Cyclopedia* reveals the absence from the record of many of the most useful remedies—the characteristic symptoms that have for years been most valued guides in finding the totality; in the record of many drugs the most valuable symptoms are conspicuous by their absence.

In Lycopodium, that marvel of remedies, too much neglected, the 4 to 8 P.M. aggravation—its most reliable symptom—is wanting; the sudden satiety, though hungry when beginning the meal; the pain in renal region, aggravated by undue retention of urine, and relieved on passing it; "red sand" in the urine; all are missing. And Lachesis, that priceless legacy from dear old Hering, has been emasculated by the pruning away of such valuable characteristics as aggravation from sleep, intolerance of external pressure about throat or chest; purple-red appearance of the sore throat, beginning on left side; suspicious even of friends; climacteric flushes and chills, etc. So with Chamomilla—the teething baby's reliable friend—what has become of the peculiar stool, with an odor of bad eggs, the one red cheek, the irritable desire to be carried, etc.? And Calc. ostearum—I find no emphasized mention of the cold, damp feet, the vertigo on ascending, the perspiring head of rickety children while asleep, etc. And the old reliable Sulphur; I find no underlined record of the "hot vertex headache; the cold feet by day, with burning soles at night; the hot flushes, followed by cold, clammy weakness; the gone, empty sensation in the abdomen about 11 A.M., which *must* be relieved by taking a little food," etc. Without these characteristics who could recognize this most valuable of

polychrests? I look in vain for the marked distinguishing features between Rhus. tox and Bryonia in rheumatism, pneumonia, typhoid fever, etc., which are so very marked, and so absolutely essential in deciding between these two most valuable remedies in these very dangerous diseases. In short, we find almost a total absence of the really characteristic symptoms of our best medicines from the *Cyclopædia of Drug Pathogenesy*. As compared with the older works on materia medica, such as Hering's *Condensed and Guiding Symptoms*, Raue's *Therapeutic Hints*, Guernsey's *Therapeutics of Diseases of Women and Children*, and others, it is an utter failure as a help to students and practitioners.

On opening one of the books the eye is arrested and the mind encouraged by the black lines of the guiding symptoms. They express the conviction of their wise old authors, based on long years of experience, observation and research, that these symptoms are more valuable than others. And those, at least, who have had the advantage of listening to the lectures of Hering and his confrères realize the value of their expressed opinions. Those thus favored appreciate fully the confidence and help such teachings inspire; they realize how wise and learned and studious and truthful was Constantine Hering, and how earnest his teachings. And they, more fully than is possible with those who have not been thus favored, rely upon them for help in time of need!

We have had no such painstaking, methodical, industrious and erudite workers and writers in the field of materia medica since the days of Hering and his confrères. His ability, acquirements and work have been second only to those of Hahnemann himself. He was the Hahnemann of America!

How different are the student's feelings when he turns to such books as the *Cyclopædia* for help in finding the remedy for a difficult case! He finds no guiding symptoms, nothing to give him a hint that this symptom is more valuable than that. A cyclone has swept through the forest of symptoms, and carried away the finger-boards and "blazed" trees which were for the guidance of the wanderer, and has left the rest! And all this is the result of the "sifting" process!

That which is most needed and that which will be most useful to the student of materia medica at the present time, is, *first*, a better knowledge of the well known characteristic symptoms of the already well-proven drugs.

The general ignorance among practitioners upon this most important part of a physician's acquirements is amazing, and the flings

and sneers cast by men of intelligence and standing at the study of characteristics are inconceivable. If we leave out the idea and study of characteristic symptoms there is absolutely nothing of value left. That proposition carried to its logical conclusion leaves us with but one remedy for each "disease!" For the moment we acknowledge the possible need of a second or a third, we admit that *something* in one makes it different from the others—characterizes it. And if we admit that any one of a score, more or less, of remedies may be needed and curative in a certain disease, we admit that *something* in each of the twenty characterizes it from all the others; and so on to the end of the list. It would seem that argument to prove that a knowledge of the peculiar symptoms of each remedy—symptoms that characterize it from all others—is the most valuable and necessary of all knowledge on the subject, were altogether unnecessary.

I repeat, therefore, that what is needed most in the study of materia medica is a knowledge as thorough as possible of the characteristics of already well-proven remedies.

Second, a proving or reproving of substances known to possess active drug or medicinal properties, and which have not been proven at all, or only partially.

To my mind, the reproving of substances already so well done by Hahnemann and his pupils and co-workers, or by Hering and his assistants, would be relatively a waste of time, and a possible unwise unsettling of well-established and correct conclusions.

It does not seem as if improvement could be made upon Hering's Lachesis or Hahnemann's Belladonna. I doubt if there are living to-day in our ranks men as well equipped by nature, culture and habit, or at all comparable in the chief essentials with these masters and their collaborators for such work. Let us first thoroughly digest and make our own the knowledge which they have so well prepared for us.

The work on materia medica that is most needed at the present time is one made up of symptoms characteristic of the drugs, averaging not more than about eight or ten to each. It must not be a book of reference—we have a plenty of such already—but one to be *memorized*. All acknowledged earnest students of materia medica of ripe experience in practice should be called on for the symptoms which they have individually found to be unquestionably characteristic and reliable; for no one practitioner knows all such symptoms of even one remedy.

This accumulation could be edited by one, or a committee of

several, physicians of national reputation in that line of work. The result would be a volume far from cumbersome, containing the meat of the subject, and which would, thoroughly mastered, afford an efficient and valuable basis for a knowledge of what is essential in materia medica.

Considerable mental work would be necessary in the way of memorizing and connecting the symptoms in the mind with the drug to which each belongs. But how infinitely less than is required as the matter now stands. And there is no royal road to a knowledge of the Homœopathic materia medica. But, once acquired, the power to cure, and the satisfaction to such as enjoy curing scientifically, compensate many times over for the labor required for its accomplishment.

Authority in Medicine.

By T. P. Wilson, M.D., Cleveland, O.

"By what authority do ye these things?"

Upon mature consideration, it will be seen to be a curious fact that, in all departments of human life, there is a standard of control set up for all human actions.

All governments are founded upon the acceptance of this principle of a "higher law." In case might makes right, then that law is simply superior force. If right and wrong are involved, then duty becomes the standard of action.

To us, as medical men, there seems to be presented in this connection a question of no inconsiderable importance.

Is the one great ethical principle contained in that which we term The Ought as applicable to the department of Therapeutics as to any other department of practical life?

It may seem incongruous with our ordinary views of individual freedom, with the much-extolled "liberty of opinion and action" stamped on many banners and floated in many breezes, to consider ourselves as physicians *under authority*.

A doctor is not only by virtue of his name a teacher, but by custom he is a ruler. In the sick room he is the acknowledged supreme commander. From this, no doubt, arises the common opinion among the people that the doctor, within the sphere of his professional duties, can do as he pleases. His word is law and his commands not to be broken.

It is not strange, therefore, that the doctor himself comes to the same opinion. Except in cases of consultation, he feels no restraint put upon the exercise of his duties. With men of overweaning confidence in their own judgment and abilities, the question of authority in medicine is easily settled. On this side, however, something of importance may be said.

We boast of our political freedom, and we spurn the thought of serfdom as a condition foreign to our climate and nationality. The discussion of man's free will as a theological question has filled many a tome in the literature of the past. It may, for all I know

or care, be under discussion in that department yet; but in the scientific world the subject is no longer under controversy.

The discovery of LAW, as an unvarying factor of the universe, determines the question of limitation. The status of man's free will, as it relates to the ordinary transactions of life, is settled, in so far as it is shown that no human being can transcend, violate or "break" the laws of his existence with impunity. Much of this has been made plain through sanitary science. *A posteriori* investigations have made the result to stand in close relation to the cause. There is no escaping the results of a violated physical law.

Now here we come upon an anomalous state of affairs. Within fifty or a hundred years passed, we have very fully developed the relation of every phenomenon to law. Philosophy has given way to Science, and Science stands for Law. In these days of progress, there is no evading the broadest generalization in applying natural law to "the altogether" of Nature.

> "Go wing thy flight from star to star,
> From world to luminous world, as far
> As the Universe spreads its flaming wall"

(*i.e.*, providing it has any wall), and you have only begun to note the power of that law, which binds forever all suns and their satellites, all comets and meteors, alike into one.

But when we speak of law, we do not, after all, mean a compelling force; neither a *vis a tergo* nor a *vis a fronte*. Law is only an expression of the orderly sequence of phenomena. Those phenomena and their causes are inherent in things themselves, and they work out their own results.

Now this is the anomaly to which we refer, that a body of men, of no mean quality as thinkers—men who take high rank as experimental investigators—openly deny that in the domain of therapeutics we have a law. In other departments of medicine they dare not deny that we have many laws. Anatomy, pathology, physiology, et cetera, all act in definite order; but to the constantly recurring phenomena connected with the use of drugs in the cure —or, if preferred, in the treatment—of disease, we have as yet found no orderly sequence.

This exceptional state of the otherwise universal action of law must be accounted for by assuming that nature is at fault, or that these wise (?) men are not always or in all things wise; and that in this particular they are quite otherwise.

Thus far we have got with universal consent. When we have discovered a law, we have also discovered an ethical principle which is co-equal to the law. The major characteristic of the Homœopathic School is, that it believes in and practices according to the law of *Similia*. But this is no more a matter of faith than is our obedience to any other natural law. Evidence of the truth of any such law may be purely circumstantial. Upon such testimony in jurisprudence men often are compelled to forfeit their lives.

But the evidence in favor of *Similia* is not circumstantial; it is direct. The crucible of the laboratory is not more absolute in its results than is the daily experience of thousands of intelligent medical men at the bedside.

Look at our books; read our journals; ask the testimony of our practical men. You say we find in all these much doubt and sometimes denial. Very well; winnow out the chaff and you will find the wheat. When you have smelted the ore you will find the gold. Unquestionably, intentional sophistication of the truth in this department is being constantly carried on.

There's money in it for many, and they will carry on their nefarious trade for gold though they steep the world in darkness.

But there are others who, no doubt, honestly think they have tested this question. They say they have tried it and found it wanting. But you may put it down as an important fact, that the men who deny the validity of this law, have never put it to the test. The chances are they do not understand the conditions upon which success depends. And if they do know, they fail to apply the only correct methods.

The Homœopathic Materia Medica is no vague and uncertain thing. It is securely based upon experimental examination of each particular drug; and it is a cardinal law, not merely of the Homœopathic School, but of science as applied to medicine, that, in *usus morbi*, the autonomy of each drug shall be strictly maintained.

This precludes the right of any one to mechanically mix two or more drugs.

Polypharmacy is, in one, the shame and weakness of medical art. It always has been; and the lamentations of the better class of non-Homœopathic practitioners, over the sad effects of mixing drugs, is equalled only by the cry of despair which they utter in the vain attempt to cast this octopus from their shoulders. I never look upon the Laocoon but I think of the futile struggles of the non-Homœpathic schools with mixed prescriptions.

What authority in medicine can be derived from polypharmacy I leave to each candid mind to determine for itself. The materia medica of the Homœopathic School is not free from defects. No more so is the water we drink, the air we breathe and the food we eat.

The Cosmos is far from filling our idea of perfection, but, through all, we are beginning to trace certain lines of force which constitute natural law. Science is biding her time when, through law, she will become the true and only interpreter of nature.

If now we turn to Civil Law we find it includes, as a final end, obedience. It is not left for us to choose whether we will obey or not, unless we dare the consequences. But such daring does not remove the claims of the law; neither does it change the ethical relations toward it.

Granted all that is claimed by those who believe in man's free will, it makes a large difference as to who is concerned in the exercise of that right. If it be the individual alone, and he makes of himself a victim in his endeavors to live in violation of the laws of his nature, then he justly excites our pity. He lives a life of suffering, and soon is dead, may be, to the relief of friends or the general public.

It is not so when a man ignorantly or knowingly violates a law and the welfare of others is vitally concerned in the results. A measureless responsibility rests upon one who has the care of others in his keeping. A private citizen and an officer of the law are doubtless equally holden to obedience; and allowing their ethical relations to be alike, still the public sees more turpitude in official than in private deeds.

This brings us to face the question which it is the object of this paper to consider: If the physician is a free moral agent, is he more so than other men? In the performance of his duties can he do as he pleases any more than others in positions of public responsibility? How far, if any, is he left out of the domain of "The Ought?"

If there be any laws in medicine, to whom do they apply more than to the physician? And if he deliberately shuts his eyes and ears, and so remains ignorant, can he thereby escape condemnation? If it be a fact that drugs are diseases, how is it possible for an intelligent physician to deny a law of relationship between these two factors?

The physician—the man of learning—is supposably fully ac-

quainted with both drugs and disease. In applying the one to the cure of the other, dare he deny that a law of relationship exists? Dare he remain ignorant of it while he assumes professional duties and responsibilities?

Does this man or woman who takes upon himself or herself so much, in the attempt to save life, ever consider the ethical nature of the work? Can a physician's duties be slumped into a conduit of habit and so pass easily along from day to day?

When a man performs his work in a perfunctory manner, what becomes of his conscience? When a doctor, as a matter of daily habit, prescribes from certain formularies, what is he better than an automaton?

Suppose now we decide that every practitioner is professionally under law of some sort, we come at once to the question: What is the authority of medicine? To what shall we bow in acquiescence when we ask, in any given case, what shall we prescribe? No man can constitute of himself a standard of action. He may have the needed knowledge, and may be an authority, but each of these are to him derived. Whence then is the authority of his authority? He cannot shift the relationship upon his father or grandfather.

Back of all personal relationships stands a fixed something. What is it? Let every man, of whatever school, answer this through his own experience.

The student, fresh from college, has full notes upon many topics, which notes he took *verbatim* from his teacher, who took them bodily from some text-book, which was most likely a favorite of his. The word of the master is amply sufficient for the freshly-fledged doctor.

The older practitioners probably read one or more journals, and these are well supplied with clinical suggestions and experiences. Most of our Homœopathic journals are filled with material very much undigested. They are reeking with clinical matters doubtfully worth the printing.

Diseases are named, and drugs—perhaps never before heard of—are boastfully recommended. At the present, and in the Homœopathic School, any drug brought forward, no matter by whom, and backed by a half-dozen clinical cases, is as surely set upon its legs as any polychrest remedy in our materia medica. Alas! how many have forgotten that, in order that a drug may be known, it must be *proven*.

Our journals are loaded with information concerning certain drugs, and our pharmacies are driving a brisk trade in them, not

one of which has been subjected to the crucial test so plainly set forth by Hahnemann. Will not provings of drugs eventually become a lost art? Perish the thought. Men will no longer bow down to gods of wood and stone when Truth becomes the heritage of all mankind.

I ask you if, in what we have seen so far, there is anything which constitutes an authority for the conscientious physician? If we are living in the dawn, instead of the nearing noontide of civilization, we should understand that all knowledge was in its formative stage. But we are more than 2500 years after Hippocrates, and we have Galen and Paracelsus and Celsus and, most of all, we have Hahnemann and Hering and a vast multitude of others, who have delved in this field. Can it be that medical art is still a mass of empiricism?

Assuredly, no. In the hands of the great teachers, medicine has demonstrated something. That something is *Law.*

This can mean no less than that, in a given case, a certain mode of procedure is imperative. The intelligent physician, acting from his then possessed point of view, can do no more or less than he is doing.

Now, in contrast to all this, look at the history of medicine. Its chief authority in all ages has, with few exceptions, been purely of a personal character. For five centuries Hippocrates reigned. For fifteen centuries thereafter Galen reigned. Of those times says a distinguished writer: "Ordinary men could originate nothing new, and they dared not express an opinion contrary to the authority of Galen."

It was the genius of Paracelsus which broke the power of Galen, but substituted his own instead. Sydenham and Cullen, to a large degree, gave liberty to medical art.

In this natal year of Samuel Hahnemann, who broke the last link of slavery that had bound us so long to dead and putrid forms, need I say, 'twas he who gave us the only true medical liberty? And that was *the liberty of law.*

And now I pause here to say that when any man turns aside from strict obedience to the law, to burn malodorous incense to the man Hahnemann, he is a medical degenerate. No man's name or fame is in science indissolubly bound up with any law of nature. It may take centuries to eliminate a given personal equation, but the time will come when the great discoveries in the world will be recognized as only incidental facts in the path of discovery.

Let us come back to the point of departure. Every practitioner

of medicine must have ample warrant for his methods. If he catches on to some prevailing fad—a theory of disease, a new medical preparation—if he seizes on these and strikes out right and left, is his not a pitiable plea that *he is doing the best he can?* He is doubtless the man who "leaves no stone unturned," not even a gravestone.

When a man has found a law in therapeutics, he is under moral obligation to follow that law. If that law demands the *similimum*, he must find it. And if he is so ignorant of our materia medica that he cannot find so much as a good similar, then let him retire until his beard be grown. Neophytes are not sonecessary to the salvation of the world, as they sometimes think they are. Let them study nature through her laws; worship no man—only the truth—and they may hope in time to reach that ethical standard in medicine which will place their professional work above reproach.

Discussion.

Wm. A. Geohegan, M.D., Cincinnati, O.:—Laws are straight lines running through the universe; paths along which certain activities occur. Their determination depends upon the relation of repeated empirical observations, and involves no conception of the essential character of the phenomena. The universal "Reign of Law" is recognized by every thoughtful mind. To place the phenomena of life and thought beyond its pale is opposed to reason. Life and health, disease and death, follow in the orderly sequence that characterizes law. And it would indeed be strange if the arrest of retrograde or morbid processes, by drugs or other means, should prove the only exception to an otherwise all-pervading principle. Like all other laws, "Similia Similibus Curentur" is founded upon empirical observations; the more frequently it is tested under proper conditions, the more fully it is confirmed. That the great ethical principle expressed in the phrase "*The Ought*" is applicable to the domain of therapeutics, follows the recognition of the law. From a physical standpoint, laws may not be compelling forces, but ethically and morally they certainly are so. Not only are we under obligation to observe them, but also to search for and to augment the data upon which their application depends. Much of the knowledge of the physician must be derived from others, and the question arises, what constitutes an authority? Human observations and experiences involve many fallacies. Personal bias and preconceived ideas impair the judgment, and are difficult to eliminate. A recent study of Palladium will illustrate this fact. A standard work on clinical materia medica gives a clearly-defined picture of the action of the drug, with especial reference to its effects upon the mind and female generative organs. A careful comparison of the symptoms given with all available provings, shows that

less than one-half are well founded. If the remainder are purely clinical, they should have no place in our materia medica unless properly designated. Another peculiar illustration is found in the provings of Picric acid. In all of Dr. Couch's provings, seven in number, made with the 30x, there were produced symptoms of muscular debility and inco-ordination, *distinctly referred to the lower extremities.* The two provings made by Dr. T. F. Allen and one by Dr. Linsley, all with the 30th, failed to excite any symptoms, *so referred*, with, perhaps, one exception. All other provings, made with various potencies, caused but one or two slightly marked symptoms located in the lower limbs. Now, when we learn the fact that Dr. Couch had previously experimented upon the lower animals with material doses, and had noted paralytic conditions of the posterior extremities and disorganization of the spinal cord, the question arises, were the symptoms of the provings influenced by what our legal brethren term "leading questions?" We must be cautious in accepting the teachings of authorities as final; must, indeed, question the "authority of their authority." A "higher criticism" must eliminate the personal factors of the equation, even in the writings of the founder of our school. It is not derogatory to Hahnemann to deny that he possessed the infallibility of inspiration, or to admit that many of his conclusions were based upon false premises and insufficient or imperfect observations. The same has been true of every discoverer of Nature's laws. Newton's first attempt to explain lunar and planetary motions by his theories failed, and he laid the hypothesis aside in discouragement until the calculations of another made possible the demonstration of the law of gravitation. He erroneously concluded that the dispersion of different colored rays of light by a given substance was in proportion to the power of refraction, which, if true, would have made impossible the construction of achromatic lenses. Galileo, the discoverer of the laws of motion and inventor of the telescope, treated with scorn Kepler's suggestion that the moon was concerned in the production of the tides. Goethe won undying fame as the author of Wilhelm Meister and of Faust, but the theory of colors, upon which he based his hope of immortality, would be forgotten but for his autobiography.

"Let us, then, worship no man—only the truth."

Some Remarks on Lapis Albus.

BY W. A. DEWEY, M.D., NEW YORK CITY.

THIS remedy, the Silico-Fluoride of Calcium, was introduced by Dr. Grauvogl, about 1874. It came about in this way: Grauvogl was anxious to find some substance which would defy chemical examination, and yet be an effective Homœopathic remedy, so that he could, as he expressed it, "hammer Liebig's nose into the truths of Homœopathy."

Being at Gastein, in the valley of the Asche, which takes its source from the base of the Tauerne mountains, he noticed that many of the inhabitants of the valley were afflicted with goitre. He attributed this to the water they drank, which he found to be impregnated with a species of gneiss. He also found that his own thyroid gland began to swell after drinking of the water. He therefore triturated some of this gneiss, and began to use it with success in certain affections, and also to make provings of it, using the sixth potency.

Liebig, however, died in the meantime, and the nose-hammering process being unnecessary, Grauvogl made known the name of the remedy, hitherto secret, and sent some of it to Dr. Carl Bojanus, in Russia, and to others, that they might experiment with it.

The provings of Lapis albus were but fragmentary, the most constant symptoms being a persistent burning, stinging pain in the breast, cardiac region of the stomach and in the uterus. These pains at times were very intense. It exerted, moreover, a marked effect on the thyroid gland, enlarging it.

The early reports of the cases of goitre cured with this remedy in potencies ranging from the 1st to the 200th are quite numerous. Another affection in which it has been used successfully is cancer, although open cases of cancer are said not to have been benefited by it. The persistent pain in the mammary region, coupled with glandular hardening, would suggest its use in the beginning of cancer of the breast.

The sphere of action of the drug may, therefore, be said to be: Goitre, certain carcinomatous affections and scrofulous glandular

affections. It has, I believe, been successfully used in lupus and cataract.

My experience with this remedy, and I have been somewhat interested in it, dates from about 1876. At that time a member of my own family had an enlargement of one of the cervical glands. It was nearly as large as a hen's egg, and had a soft, doughy feel. Under Lapis albus 6, prescribed, I believe, by Dr. G. E. E. Sparhawk, now of Burlington, Vt., the swelling speedily and completely disappeared. A peculiar and unusual symptom noticed by this patient while taking the medicine was a marked increase in the appetite; it became ravenous.

Since that time I have used the remedy in many cases of scrofulous enlargement of the cervical glands, and find that it is almost specific where the glands have a certain amount of elasticity and pliability about them, rather than a stony hardness, such as might call for Calcarea fluorica, Cistus or Carbo animalis.

One case in particular which I recall was a young lady, about twenty years of age, a natural blonde, skin fair, bluish white, showing prominent veins, who had a glandular enlargement in the right supra-clavicular region, nearly the size of a goose egg, and one somewhat smaller a little further back in the interval between the sterno-cleido-mastoid and trapezius muscles. These had a certain amount of hardness, but they were movable. Others of the cervical chain were also enlarged, the right side being the only one affected. As the young lady was engaged to be married, these unsightly lumps were very distressing. Lapis albus 6, a powder four times a day, in a week caused a marked diminution of the size of the glands, and in three weeks they were not noticeable, and eventually entirely disappeared. This patient also had a ravenous appetite while taking the remedy, an unusual thing for her. Her anæmic color and complexion were also greatly improved.

The most remarkable effect of the use of the remedy I have had was in a case of goitre in a lady of about thirty-five, blonde, who had for over a year noticed a gradual increase in the size of the thyroid gland, until it was as large as a good-sized fist, when she came to me. Both halves of the gland seemed to be equally involved. It did not appear to be of the encapsulated variety. This patient had received previous Homœopathic treatment, having had Spongia, Iodine, Thuja, as well as some other remedies. Lapis albus 6 was prescribed, a dose every three hours. The swelling began to disappear at once, and continued to diminish in size until it com-

pletely disappeared, and at the present time over five years have passed with no return of the trouble. In this case the appetite was not specially affected, though it remained good throughout the treatment.

In another case of enlargement of the cervical glands on the left side, in a school teacher, Lapis albus 6 was given. There were no symptoms leading to any other remedy, the patient was apparently perfectly healthy, the gland, which was the size of a hen's egg, promptly began to lessen in size, and doubtless would have disappeared entirely had the patient continued treatment. From some unaccountable reason she ceased coming in the midst of rapid improvement.

Lapis albus, in cases like the foregoing, should, I believe, be given in repeated doses. And herein I concur with a point brought out the other day by Dr. Royal, that in certain chronic cases it is needful to repeat the dose oftener than in acute cases. It may be a deep-acting remedy, like its near relatives, Silicea and Calcarea fluorica, but I have never had any experience with it in potencies higher than the sixth, nor in single doses permitted to act for a long time. Grauvogl observed that in cases where malarial conditions had existed, relapses of these were apt to occur, a further evidence of its deep action.

It has also proved useful in my hands in the common chronic glandular swellings in scrofulous children. I have succeeded with it after the Calcarea preparations had failed.

Grauvogl reported the case of a carcinoma of the cheek in a woman, aged fifty, cured by Lapis. Her countenance became healthy and her complexion assumed a ruddiness and freshness unusual with her. He also reported the cure of five cases of uterine cancer with the remedy.

It would seem indicated in anæmic and chlorotic conditions. I have noticed that these conditions have improved under its use when prescribed for its action on the glands. Indeed, I look upon an anæmic condition as an additional indication for its use.

In enlargement of the mesenteric glands Lapis albus may be indicated. Dr. Soenens, in the *Allgemeine Homœopatische Zeitung*, reports a case of diarrhœa with enlarged mesenteric glands cured with Lapis albus 3. He considers it a specific in affections of these glands. It certainly acts very rapidly in causing as well as in curing glandular enlargements.

It has also been recommended as an important constitutional

remedy in dysmenorrhœa. Dr. Whiting, of Danvers, Mass., uses it in subjects of a lymphatic temperament with indurated glands and pain preceding the flow. It seems to mitigate the pain and swelling of the mammæ which are sometimes an accompaniment of dysmenorrhœa.

It is also mentioned as a remedy for cataract, but to what extent it has been used with success I am unable to state.

Discussion.

C. H. Evans, M.D., Chicago, Ill.: The cure of mammary pains is not borne out by my experience. I have used it in the same potency as mentioned, in two cases of gastric cancer, where the diagnosis was supported by a post-mortem after a long course of Lapis albus. In another case, one of mammary cancer, I used it for some time, but could see no effect from it; the diagnosis in this case was supported by microscopic examination after removal of the breast. Notwithstanding this, it may prove of value early in the case.

Millie J. Chapman, M.D., Pittsburg, Pa.: Six years ago a patient came to me with a growth in one breast; she had had it removed in the East, but it had returned, and she dreaded another operation. I gave her Lapis albus once a day for a week and then none for a week, and so on for five weeks, when the growth had disappeared. She returned to the East and consulted with the surgeon who had removed the growth the first time; he examined her, and became very angry because it was no longer there. He had called it a recurrent cancer. I used the remedy in the 30x with no other treatment.

T. F. Allen, M.D., New York, N.Y.: I remember the case of a lady who had one breast amputated for a tumor; it returned on the other breast, and that, also, was removed. She then came to me, as there had developed in the left axilla a small nodule the size of a horse chestnut. In the scar on the right breast there was a small indurated mass, not having the feeling of a lymphatic gland, but a part of the scar, and here there was a burning pain. My experience with these cases, after they have undergone operations, has been unsatisfactory. In this case, however, the glandular swelling spoken of has nearly gone and the recent scar has lost its angry appearance and is decidedly improved. These cases are apt, after involvement of the lymphatics, to become speedily hopeless. My experience has been limited, but I think that in this remedy we have an agent to stop the progress through the lymphatics. The patient referred to had one dose a day of the 6th centesimal potency.

W. H. Hanchett, M.D., Omaha, Neb.: I have a case of goitre which, under this remedy, has greatly reduced in size. I hope it

may progress to a complete cure. I consider this as a valuable addition to our armamentarium in the treatment of this class of diseases.

T. G. COMSTOCK, M.D., St. Louis, Mo.: Seventeen years ago, after reading Grauvogl's report upon this remedy, I sent to Boericke & Tafel and procured some Lapis albus, and administered it to the wife of our Minister to Brazil, for carcinoma of the breast. I also used it in other cases, but to all without any good result. I gave the 6x trituration.

B. S. ARNULPHY, M.D., Chicago, Ill.: While I have had no personal experience with Lapis albus, I remember an old physician in Europe who had great success with this remedy. I mean Dr. Pröll, of Gastein. I knew him for a long time, and his cases were well taken and faithfully reported. He reported much success in cases of carcinoma, goitre, etc.

W. A. DEWEY, M.D., New York, Essayist: It is only recorded and found useful in incipient cases of carcinoma, like the cases of Dr. Chapman and Dr. Allen. It is of no use where the case has progressed to the point of ulceration. Grauvogel never found it of value in open wounds.

Some Similia Similes.

By L. C. McElwee, M.D., St. Louis, Mo.

The title of this paper is sufficiently comprehensive to admit of similes on every point of Homœopathic philosophy, but we are sure that you will be pleased to learn that it is not our intention to reach the ultimate possibilities of the caption, but merely to touch the subject in high places, as it were.

We have often seen a lad "skip" a flat stone on the surface of smooth water, which left expanding circlets behind it, finally merging into an undulating path, which in turn extended its wavelets to the adjacent fluid until the whole surface vibrated with a wavy, tremulous motion.

If the ideas contained in this paper, shied at the broad expanse of its subject and projected on the ocean of thought here present, create a shimmering line of thought, corruscating with similar ideas, the purpose of this paper will have been accomplished, and we shall be happy.

The teachings in Hahnemann's *Organon* are so radically different from the traditions and practices that we have accepted for lo! these many years, that when coming across them for the first time one naturally shrinks from their immediate acceptance, because they are not at once self-evident. On the contrary, the Law of Similia is to all appearances a flat contradiction, but the experience of a hundred years has demonstrated that it is no such thing, and, therefore, if it has the appearance of being a contradiction and is a real truth, it is necessarily a paradox. And so it is, of the most pronounced type. And since paradoxes are merely truths in disguise, it becomes the duty of the advocate of their principles to demonstrate them and to remove the masks which hide their beauties from the uninitiated.

Being forced to admit that we have a paradox to put into practical application, we naturally seek its most salient points, and in doing so at once come across these three, which we will consider, *i. e.*, "Drug Action, Primary and Secondary," "Like cures Like," and "Potentiation."

In the "wild and woolly West," or in that part of creation so considered by the more ancient East, Homœopathy is yet in comparative infancy,—at about that period of its existence which would correspond to the teething period of a growing babe. Being yet in swaddling garments, and having to be vouched for, it is often necessary to leave the high standards of finished and technical language in which the more highly educated would find pleasure and receive understanding, for the simpler and plainer speech of the realm—to put the pabulum of Homœopathic truth in such homely form that the minds of the inhabitants can assimilate it.

To this end it is often necessary to construct figures of speech containing a central idea that corresponds to the fact under discussion, and which is familiar enough to the listener to enable him to appreciate its application and be instructed thereby. Even in teaching medical students the intricacies of the *Organon* we have found that this means of instruction has produced the deepest impression and left the clearest understanding of the subject-matter.

Unlike the student of to-day, who attends medical college with a teacher to explain the intricacies of the Homœopathic philosophy, we studied it alone, and many and long were the hours of reflection on and ruminating of the various paragraphs before their meaning became clear and their application apparent. *Our* school was individual reflection, in secluded silence mostly, but often in the loudest uproar. But whether in the stillness of a night in the country, in the seclusion of a shady spot on the river's bank practicing the art that keeps the White House bereft of a master much of the time, or amid the clamor of a ball game, our teachers were the events constantly transpiring around us, that without language of words became explanatory expressions of problems that awaited solution.

Whether the conclusions arrived at were correct or not, we will leave for the decision of this body, as some of them are here given in the particular form in which they were born, and clothed in the thought raiment which at that time invested them. But whatever that decision may be, they scattered much of the mist of uncertainty which intervened between us and a clear understanding.

Drug-Action—Primary and Secondary.

The whole superstructure of medicine must necessarily rest upon drug-action in its widest sense of application, and it must be con-

ceded that the giving of medicine, to become a science, must be done according to fixed principles. The belief that medicine will finally become an exact science, must needs include the proposition that drugs produce certain specific and invariable effects. Then what is drug-action? Hahnemann characterizes it in classic language; we roughly say—it is their sick-making property. Experiment determines the fact that drugs cure sick people, and they must do so, therefore, by virtue of their sick-making property. The deduction follows, as the day the night, that no drug will make a sick man well that will not make a well man sick. Experience further determines that drugs have two effects—primary and secondary. How, then, can the same drug cure in two different ways? Because it has two different actions, *i.e.*, a primary and a secondary effect; and the Old School prescribe on the indications of the former—when they prescribe on indications—while the New School prescribe on the indications of the latter. But some will say, "While I know what you *say*, I do not understand what you *mean;* I cannot fathom that thought at once; please illustrate." Well, my friend, Hahnemann, in Paragraph 63 of the *Organon*, states that "every drug alters the harmony of the vital force, more or less, and produces a certain change in the state of health of the body for a longer or shorter space of time. This is called primary effect. Although a product of drug-action and vital force, it is probably due chiefly to the action of the drug. Our vital force, by means of its energy, endeavors to oppose this effect. The resulting conservative reaction is an automatic activity of the vital force, and is called after-effect, or counter-effect." If possible, the inquirer after light on this subject, or the student reading this passage, is more mystified than before, because of the complexity, as well as the newness, of the idea, together with the addition of this new element—the vital force. As it is not necessary, or even expedient, at this point, to give an explanation regarding the vital force, we usually say to them that the human body is subject to the same laws as any other body, and that one learns very early in his scientific career that "wherever in nature there is an action there is a consequent reaction." For instance, if you hitch your thoroughbred trotter to your road-cart, get behind him with a whip and lash him savagely until he gets to the top of his speed, and repeat the castigation as soon as he begins to lag, you will travel a greater distance with him in the same length of time by so doing than by any other means. But if you keep up this treatment it will soon be discovered that he will

not respond to the stimulus of the whip, and other and more drastic means have to be adopted, until all the spirit in him has been worked out; you have brought him to a condition corresponding to the secondary effect of drugs. Administered in crude form, they set up an intense action, but it soon runs its race and then the day of reckoning comes, and the penalty is an actionless constitution. The sensitiveness to drug-action has been killed, like the spirit of the horse, by the drug. And as the muscular power of an organism may be exhausted by over-exertion, so may the vital force be destroyed by the constant repetition of crude medicinal agents.

But, you say, "I am not yet clear on this point. There is too much 'vital force' in your explanation for my understanding. Can you not make it clearer in some other way?" Well, yes, as nearly as can be done by omitting one of the essential elements of the proposition. However, if you will take an ordinary convex lens and get it "in focus," you will see the object under the glass very clearly, more so than without it, while if you move the glass away the object will gradually disappear, until at length it will reappear, but will be inverted and not so distinct. The object in focus, in correct position, is the primary action of the glass, and the object in focus appearing to be inverted is the secondary action of the glass. The primary effect of a drug being a given one, the secondary effect is just the opposite. Now, those curing the sick by the aid of the primary effect of medicines, do so, as a rule, according to the law of contraries; while those curing by the secondary effect of drugs do so, almost invariably, accordingly to the law of similars. "Oh! I see," says the inquirer, "Similia, Similibus Curentur—the hair of the dog is good for the bite." Not so fast, my friend, with your translation. It is not the hair of the same dog, but that of a similar dog, if you wish to paraphrase correctly. But how can you possibly say that a drug producing a given effect can cure effects similar to those of the drug? It is the very acme of paradoxes to make such a claim; and it is more than that, it is absurd. Now, my friend, you have seen equally absurd and contradictory things, and I will show you from your own experience that this proposition is as practical as any other apparent contradiction which you have seen demonstrated. This brings us naturally to our second point:

Like Cures Like.

You have seen water made to boil by pouring ice water over the vessel containing it. You have heard silence ensue after the intro-

duction of a humming "A" tuning-fork into an "A" tube, and heard it resume its song on being withdrawn. You have had the burning which follows a swallow of Bourbon vanish on taking a swallow of Seltzer water; both of them are irritants, but the one destroys the other. Now, the present application of this fact is this: Whatever life is, and whatever health is, they are modified by the action of drugs. If life is a mode of harmonious motion, and the specific effect of drugs is a mode of harmonious motion (if health is harmony and disease is discord), then as silence results from the meeting of similar sound waves, so harmony is restored to the discordant organism by the meeting of its specific actions with similar specific actions of the drug kingdom.

And, on the other hand, do you not know that if you strike an "A" chord on the piano, every other "A" string in the instrument will vibrate in unison with it? This fact still further explains how likes are influenced by likes, the former case corresponding to what we term the primary, and the latter to the secondary effect of the drug. Thus, as the harp-strings, tuned to a certain key, are set singing in unison by similar chords sounded by the musician's hand, so are human life-vibrations influenced by similar chords of action when adapted to them by the skilled physician.

The question is often asked, What is the difference between the Old and the New Schools? My reply is, the same difference as between the north and south poles. By that I do not intend to say all the difference in the world, but that they are diametrically opposite. The difference might be expressed somewhat in this manner: The Old School is a system of medicine based on experiments on sick people and dumb animals, while the New School is based on law established by experiments on well people. Medicine given the old way suppresses disease by a superior physical force, while medicine given according to the law of similars cures the sick by suasion. This latter statement I illustrate in this way: Disease may be considered to be a riot of the cells of the body, and like a riot of men who, up in arms, clamor for a point which they deem to be a right, will destroy everything in their way to attain it unless restrained, suppressed or persuaded to desist and be quiet. If you place them under arrest, or in prison, they can do no harm, but liberate them and they again congregate and riot. Place a cordon of soldiers, 5000 strong, around them, and no demonstration of a hostile nature will escape them. Remove the soldiers, and the demonstration at once breaks forth anew. But if, on the other hand,

some one companionable to them, and who has ideas similar to their own, comes from without and announces to them that, because of certain concessions on one or both sides, the grievance for which they riot has been adjusted, peace and quiet immediately prevail, and the militia are no longer needed. There is no riot to quell, though the same individuals are present who but a moment ago were in a state of frenzy. You may imprison with Morphia the pain of neuralgia, which is peculiar in that it darts and shoots like lightning, and is temporarily relieved by warmth; but as soon as its effect dies away, the lightning pains reappear. A dose of potentized Magnesia will persuade the pain to disappear permanently. These cells are certainly in the same location, and apparently in the same condition, but they no longer evolve pain, for their grievance has been adjusted. The disease has been *cured* by suasion; it was only *suppressed* by superior physical force. Crude drugs almost always suppress by preponderance of physical force. Potencies always cure by suasion.

Tom Moore evidently had a glimpse of this truth when he wrote:

"No flower of her kindred,
No rosebud was nigh,
To reflect back her blushes,
And give sigh for sigh."

The "last rose of summer" was evidently sad because of her approaching demise, and, from the poet's expression, evidently yearned for sympathy. Now sympathy is a feeling corresponding to that of another with feelings kindred in kind if not in degree. Another element of sympathy, we think, is the voluntary assuming of the trouble of another. This brings to mind the axiom that "a trouble shared is half over." If, then, sympathy will relieve the trouble existing in the mind of another, and as sympathy is necessarily in its very nature trouble, we have again an illustration of "like curing like."

This suggests another thought which we very much desire to present, but hesitate to do so because it is treading somewhat upon "holy ground." We do not wish to lightly quote serious Scriptural expressions, but one occurs to us which is so beautifully appropriate that we cannot refrain from using it in this connection. Since the law of cure is concerned in the saving of precious lives and as the Subject of the quotation not only saved lives but souls, it may not

be deemed inappropriate for us to use it here; and having introduced several similes more or less familiar, some of which may have appealed to one and some to another, doubtless this divine one will appeal to all: "For since by man came death, by man also came the resurrection of the dead; for as in Adam all die, even so in Christ shall all be made alive." So also: As by drugs may come disease, even so by them shall it be cured; for as by poison one may die, even so by drugs shall he be made alive.

POTENTIATION.

The subject of potentiation, however, was the hardest problem, the chief source of worry, and presented the greatest difficulty of acceptable solution that we encountered. It was five years before a verdict of our own was reached, for engaged as we were in a country practice—Old School—with baseball as a diversion, ample opportunity was afforded to solve the points of difficulty while waiting for a patient, to pull a tooth or to handle a "hot grounder" and get it to first in time to catch the runner. Many and various were the ideas and theories concerning dosage that came up for consideration, but they would all finally become misfits until one day, when the idea of "potency" lost its elements of volume or magnitude, preponderance of force and physical dominion, which prior to that time had been considered by us to be its chief attribute.

The idea came about in this way: The ball club of which I was captain was composed of nine men, who averaged 170 pounds, and we were pitted against a team from a neighboring town who were mere feather-weights compared with us. We felt as though we were playing against "kids" or mere boys, and were really ashamed to array ourselves against them, for we naturally felt that we would simply "sponge them out." When the game was finished, however, and the dust had cleared away, we were even more ashamed than when it began. The score was as "jug-handled" as one could well imagine, but the handle was in the other fellows' hands. The umpire, even, was quite a small man, but my! how efficient! Potency then and there acquired a new meaning to our mind—that of efficiency or capacity. Efficiency becoming a synonym for potency, the whole subject was clad in new meaning. A new light had broken over the entire field of thought, and the things that had been obscure became plain. Potency, considered as power and without qualification *per se*, contrasted with potency considered as efficiency, is like studying a landscape by moonlight one moment and consid-

ering it under the full force of the noon-day sun the next. There was opposing that small team a tremendous force, if it could have been properly utilized, but the conditions were unfavorable. Force cannot always have its own way unconditionally. On this occasion, for instance, those nine big fellows attempted ever and anon to "knock the cover off'n that ball," but they were not "on to its curves," and it persistently eluded their efforts. The curves which that ball described were not wide, and could only be seen by the practiced eye of the umpire, but they were efficient just the same, and the joke was on us, for we couldn't hit it.

Now the lesson we learned from that experience was, that if we desired to utilize the great force resident in our combined muscles, we must adapt it to the exigencies of the conditions, and that a very little apparent force, coupled with great capacity, could produce overwhelming results.

The application of it to me was, the adaption of crude and refined drugs to the work to be done by them. Unquestionably, there is more innate force *per se*, more magnitude of measured power, in the crude drug than in the trituration. But the conditions are such that not all of the force is necessary, certainly not available. The molecules of some forms of matter are too large, apparently, to pass through the interstices leading into the ultimate cells of the living body, under certain conditions, or these same molecules are unable in their crude form to leave their impress upon the system, and the cells riot *ad libitum* because of the absence of the pacifying element. Our food, in order that it may serve to nourish the body, must first be changed from its natural or crude state—digested; then, if properly refined, it is assimilated by the cells, and becomes blood, muscles and bone. Now, it occasionally happens that the living cells boycott a certain element of the food, and although they suffer its absence intensely, and show it in a hundred ways, they will persist in refusing it lodgment among them, as the striking miners do the advances of the arbitration committee, preferring rather to suffer than to take the apparently distasteful (crude) material.

For instance, the cells refuse, for some reason, to assimilate lime from the food. The body emaciates, the bones soften and bend, and the dismal picture of rachitis is developed. Undoubtedly, lime in the tissues, in the proper proportion, is the only thing that will restore them to their pristine condition; but, while that is true, a barrel of lime, if it were possible to be given at one time, would not

accomplish the desideratum, for it has been boycotted. The striking miners really need money to sustain themselves, but they must have it under conditions that suit them or they will not take it at all. The cells really need lime, and there is plenty of it in the food taken, but they will not have it crude. Now refine it, potentize it, make it capable, render it efficient by comminution of its molecules until they are so small that they will be able to pass the threshold of the forbidding cells, and what a change will then be wrought! The boycott will be raised. The food material that the builders rejected will be accepted and "become the head of the corner." Harmony will replace chaos, and life's song will be as sweet as before.

The same reasoning obtains in the case of the so-called inert class of drugs—the pure metals. There is surely more intrinsic power in a section of railroad iron than there is in a very small key, so much more that the key might easily represent the tenth potency. And yet, with all the immensity of innate strength in that crude piece of iron, it is incapable of opening the tiny lock that the key fits; whereas the key, although so light that its presence in the hand is scarcely noticeable when inserted into the body of the lock and gently turned, will move the tumblers in unison and the door will swing open; the bar that held it closed has been moved. It had a capacity which did not reside in the greater magnitude of the big rail.

Did it ever occur to you that more keys in a descending scale of size and conformity would open a given lock than if they were in an ascending scale? Beginning with the perfect fit, which represents the correct remedy and proper size dose, reduce the size a degree at a time, and it will surprise you to find how many shades of difference downward you will go before the turning of the key will not produce an effect. On the other hand, increase the size a shade, and it is a tight fit, but will turn, although the lock itself is in danger of injury. Increase yet another shade and the key won't fit at all, although of the proper material so far as quality is concerned and of exact conformity. The lock, like the sick individual, must have that particular quality of remedy, but in such large quantities cannot be assimilated, consequently cannot work the combination, and, therefore, is impotent. By adding force still further you may destroy the lock by attempting to open it with too large a key, as you will the patient by forcing too large quantities of crude drugs into him.

Again, health is the victory of the reparative life-forces existing in the body over the breaking-down or destroying death-forces. These two forces are so equally balanced that during health the destroying or breaking down force is invisible, as is the Bunsen burner standing beside the arc light. As the balance between these forces is very even, it only requires a little change on either side of the scale to create a disturbance between them. As the life force is in the ascendancy during the period of adolescence, the tendency to good health during that time is very great. After full maturity decline begins, when the tendency to grow worse is very great, and the balance is more easily disturbed. Now, since these two forces are so nearly equal, it is readily seen that only a little force is necessary to be added to either to make it more powerful than the other. If the Materies Morbii perches on the side of the building-up force, the other, or sick side, immediately gains the ascendancy; but at the same time all of the reparative forcès are hard at work on their side, and in a little while, or with judicious assistance, it regains its former position, and the destructive force must resume its place in the shade. To illustrate: We once saw ten strong, healthy men attempting to place a railroad rail on a wagon. Their combined strength was almost equal to the task, but not quite. A small boy standing by, observing them, saw their distress, and running up applied his strength, and over the rail went. His strength was to the combined power of those ten men what the twelfth potency would be to a similar amount of disease force, but his strength was the immediate cause of the loading of the rail, as the small dose of medicine is the immediate cause of the restoration of the lost health. With the great help of the vital force—the men—which must never be lost sight of, small amounts cure. He had loaded the rail on to the wagon as drugs cure diseases. The combined strength of those ten men and the intrinsic weight of the iron were about equal. It only required a little addition of strength similar to that of the men to solve the problem.

Gold in its ordinary state is only good to stir up strife, lessen McKinley's chances to be President, and serve as a plank in a political platform. Under certain conditions, however, it is one of the finest of remedies. Although not all the gold in Eldorado could scatter the despondent clouds that obscure the sweet sunlight of reason in the mind of the unfortunate creature who labors under its suicidal spell, yet gold properly prepared, rendered efficient, will disperse the clouds in that suicide's mind, leaving it bright

and clear, as a northwest wind drives the clouds out of a winter day.

Iron as it is taken from the ground, or in its usual form of nails, beams and rails, is only good to build bridges, put up houses and make railroad tracks. But in some forms it becomes an invaluable medicine. Not all of the iron in Vulcan's mines, however, could tint the blanched lip and cheek with cherry and crimson, and cause the languid eye to glow with the fire of ardent health, although when needed, if properly prepared, a quantity infinitesimal in itself would accomplish that desired end.

And silver in the form as taken from the mines, or made into money, is of no value to the sick in a curative way, for not all the silver that could be coined at the rate of 16 to 1 could clear the voice of our Richard P. Bland, made hoarse from long speaking in Congress halls on his pet theme; but an infinitely small quantity, when indicated, can take the huskiness out of the throat, so that the tones that issue therefrom will ring, and be sustained, and clear as the tinkle of the *dollar* that bears our Richard's name.

Discussion.

T. P. Wilson, M.D., Cleveland, O.: Many things are so beautiful that it seems a pity to find fault with them; they leave such a nice taste in the mouth. I say similia is not a contradiction, it is a law of nature, and no law is contradictory, seemingly or otherwise. It is not a paradox. unless you get two doctors prescribing for the same case (when you have a pair-of-doc's). The law is not explanatory of the action of drugs. It is a law of selection by which we learn which remedy to use under certain conditions. The law simply says "Use that remedy," it does not say how it works. There need be no further knowledge of the law. It is not philosophy, but fact, and facts are to be given to us under the direction of a wise philosophy. The *Organon* treats of the philosophy of Hahnemann; all of the philosophy of Hahnemann I put in the doubtful list, but the facts I respect. The primary and secondary action of drugs may be correct, but is scientifically undemonstrable. While it is clear in Aconite, Belladonna and a few others, there are many of which this cannot be said. There is no such thing as a vital force; it is not an entity. It is the co-ordination of many forces which, together, make up the condition known as life, when scattered there is no life. It consists of co-ordination, which is to-day and is not to-morrow. Life is not the antithesis of death, you cannot have death without life, and *vice versa*. A scientific separation between them cannot be made, and no proposition founded upon such a difference will stand for a moment.

Homœopathy is not the antithesis of Allopathy. It is or is not,

without being the antithesis of anything unless something is the antithesis of nothing.

L. C. McELWEE, M.D., St. Louis, Mo., Essayist: I did not think that any one would suppose from what I said that I believe that *similia* is anything but an absolute and certain law. Many people, while believing implicitly in the law, think it apparently contradictory; if, therefore, it has the appearance of a contradiction, and is true, it is a paradox.

The Metaphysical, the Permanent Element in Science.

By T. J. Gray, M.D., Minneapolis, Minn.

Any attempt to compress within the limit of a brief discussion a theme so vast as the one now before us may well seem futile. My only excuse for thrusting forward such a subject at this time is a profound conviction that as a school we need to frequently lay bare the foundation stones of our professional edifice in order to strengthen our courage and clarify our vision amid the noise and fogs of current medical empiricism.

The vain and delusive hope of the old magicians, transmitted to their children, the alchemists of the Dark Ages, that somehow, somewhere, there would be found upon the earth a universal medicine, a panacea for the ills of humanity, was taken up by the school of chemical medicine, and has been pursued by its votaries to the present hour. The air, the sea, the solid earth, nay, the sky itself, has been explored and entreated to give forth the longed-for fruition of hope. When at length scientific chemistry had forever destroyed the vagaries of the old alchemy, with its dreams of transmuting metals and compounding the elixir of life and of discovering the fountain of youth, the dominant school of medicine, having deftly slipped itself within the lion's skin, proclaimed to the world that the scientific methods were *now* known for manufacturing the chemical remedies curative for all disease. An elaborate and burdensome materia medica, consisting of nothing else but empirical formulæ for diverse and complex conditions, previously named as diseases, grew up upon the basis of the chemist's retorts and reagents. Every year hundreds of new compounds were added and other hundreds fell into oblivion—tried and found wanting. The process still goes on, and chemistry in its relation to medicine flourishes at the expense of health and human lives. The whole record from the beginning is one of empiricism in its worst form, an art without compass or rudder—literally blown about by every wind of opinion.

And yet the effort of old medicine to find specifics and panaceas is a natural one; it is a necessary outgoing of the human mind

toward the universal; the process, or an attempt at the process, of generalization an effort to subsume the diverse and manifold in phenomena under a law of unity.

The fundamental and fatal weakness lies in the effort to reach the universal by the multiplication of instances in experience. The addition of fact to fact to the end of time could never adduce a single principle of the reason. These universal laws are not, nor can they be, thus attained. This great truth is well illustrated in Hume's system of philosophy, a system that roused Immanuel Kant to his mighty outburst of philosophical inquiry, resulting in his immortal *Critique of Reason.* Hume's central assumption lies in his doctrine concerning the idea of causation. He declares that the notion consists in nothing more than a mere belief or habit of mind induced in us by oft-repeated experiences, whereby we see one phenomenon following another in time in unchanging order of antecedent and consequent, until we come to regard and name the former as cause and the latter as effect. This doctrine appears again in a different form in the corner-stone of Herbert Spencer's system of thought, viz., that all axioms are but the concurrent observations and experiences of the race, mere generalized experiences, having neither the quality of necessity or universality.

Kant and his compeers undertook to settle forever the question of the origin, place, validity and authority of *à priori* knowledge, and it is not too much to say that their conclusions have made any further attempts quite useless. They gather into one the beams of the pure white light of truth and scientific demonstration that irradiate from David, from the Hebrew insight into the nature of God; from Plato, from the Greek insight into the realm of the absolute idea, the archetypal idea, lying back of and conditioning all phenomena; from the profound seers of Egypt, of Persia, of India; from the great minds of Christendom, such as Origen, Augustine, Dante, Spinoza, Bacon and Luther. No century in all history has produced such a galaxy of giant minds as that from 1750 to 1850. Like Plato, Aristotle and Dante the men of the eighteenth century rise above the common level as the Himalayas overtop the plains below. Empiricism, that is, that process of thought or attempt at scientific demonstration that appeals to experience as its standard of validity, has proven to be without any vital principle of progress. The questions that it raised it could not answer. Having no instrument with which to rise above the round of the phenomenal in experience, it could not see its own errors nor correct its own false

premises. Kant, Fichte, Hegel, in the spirit of the methods of Plato and the dominant school of philosophic thought since his day, pushed the inquiry boldly out into the field of the *insight of the soul*—a field lying entirely above and beyond that of experience, a field from which must be drawn those laws that made experience itself a possibility, a field in which the questions "How does the mind know anything at all?" and "What can it know?" "What are the limits and forms of all knowledge?" can be asked and answered, and the guess work of empiricism made to give place to the demonstrations of rational certainty. The *à priori* forms of knowledge which lie back of and condition all processes in induction were thus laid down as the foundation of all scientific inquiry. The origin and scope of every science, whether of nature or of men, were clearly defined and the spheres of sense-knowledge and rational insight accurately mapped out.

Having thus determined the limits of the possible, every science and every art emerges from the *terra incognita* of mere inductive philosophy into the realm of the knowable. Such a conception reveals the unity of all science and all art in the higher unity of human consciousness. For any and every science is but the outgoing of the faculty of reason in the formulation of the laws of phenomena, and every art is the outward expression of the attempt of the rational spirit to realize, to externalize itself. The cycle or circle of all science is thus reducible to a cyclopædia of knowledges, and the impossibility of comprehending one apart and of itself is clearly seen. Every art is intelligible under the interpretative light of its law, and every law finds its confirmation in the art. "The prevailing system of philosophical thought," says one, "must ever profoundly affect all contemporary physical investigation and very much mould all natural science after its own forms. All philosophy must strike its roots in the reason, and its first principles must be found or assumed *from beyond the empirical and entirely within the transcendental. The physical can find no law of exposition save in the metaphysical.* It is in this field that the foundations of all systematic philosophy must be laid."

These observations are as applicable to medicine, both as an art and a science, as to politics or chemistry. Both the art and the science are the creations of the fruit of the metaphysical conceptions that lie behind and above them. It is, therefore, of infinite concern to all lovers of truth that any art shall square itself with these ultimate laws of its being, as they lie in the universal con-

sciousness of man. All the attempts to rationalize the art of medicine for more than two thousand years having utterly failed of their intent, men had come to regard it as beyond the bounds of any organizing principle, and to conclude that it is nothing more than mere empirical guess-work. And unless the art can be saved from the logical outworking of the false system of thought represented in such men as Hume and Hobbes and Locke, it must inevitably give place to new forms of effort for the healing of men. It was therefore a matter of the greatest benefit to the race that the philosophy of the eighteenth century should have settled the relations of the facts of experience and the principles of the reason—a result sometimes by shallow wits dubbed "transcendentalism," as a mark of disrespect, but by wiser men reverently received as a key to the interpretation of the problem of man, rising above the endless round of mere phenomena, lifting us to the pure, clear air of intuitive vision.

The threefold sphere of knowledge, represented, *first*, by the *senses* in their dealing with qualities and modalities only; *second*, by the *understanding* as it rises to the conception of a substratum beneath a phenomenal world, to substance and agent, to force and causality, and, *third*, by the *pure reason* that carries the inquiry to its final possible limit in the recognition and valid being of the Idea, the Archetype, the ultimate principle whose existence explains and guides and makes all knowledge on the lower level a possibility; these spheres were first adequately defined and demonstrated during the eighteenth century. Man is an essential unity, and in all forms and modalities of his being his essential self is involved. He is without parts; each so-called part, or faculty, is but a modality, a function, an expression of this essential self. In his sense-knowledge he is shut in to a view of phenomena only; the underlying nexus of a world given in the senses only would be unthinkable. But at the same time that the phenomenal is given in the senses the soul supplies the conjoining nexus in its conceptions of the noumenal in the understanding, and so organizes a world into a unity or whole thing; but, further still, the same mind adds to these facts the final unfolding of the natural inquiry, how can these be, and what is their final explanation? the light of the direct testimony of the Pure Reason.

This conception of the nature of man, which is in accord with the systems of philosophic thought as found in Plato, in Christian writers, in the sages of the far East, in the long line of metaphysical

writers up to and covering the eighteenth century, the only system that has ever dominated any considerable portion of the race, and therefore justifies itself in its own conclusions, was present at the birth of Homœopathy. Under its star the school of new medicine took its rise. The birth of Hahnemann was marked by the men and the problems that surrounded it. When he was twenty years of age, in 1775, he left his home college for the University of Leipsic. The *Novum Organum* of Bacon had broken the fetters of the schoolmen and man's intellect was free. In its new-found freedom it essayed to overturn and rebuild the very beams of the universe of God. Hume passed off the stage as Hahnemann entered. Kant issued his *Critique of Reason* in 1781, fifteen years before Hahnemann published his first statement of Homœopathic doctrines. The American Revolution opened as he was trudging on foot and unknown toward Leipsic. The Massacre of St. Bartholomew occurred while he was experimenting on Cinchona bark. The career of Napoleon, with all the name calls up, lay within the earlier years of Hahnemann's mature life. The period was one of unrest and skepticism, and men were obliged to think beyond the limits of what their hands could touch, in order to save themselves from utter defeat and despair.

Hahnemann had a philosophic mind, he was highly educated, refined and sensitive. He was imbued with the spirit of a Newton, a Palissy, a Morse, a Kepler. He was thrilled with a desire to know the truth, whatever it might cost him in his mental idols. He was a close and profound student. He was filled with the light of the transcendental school of thought, a part of which he himself was, and profoundly conscious of the impossibility of any progress or reform on the lines of mere sense-knowledge that possessed the field of old medicine. There were but two ways open to him; he must either abandon medicine entirely, or endeavor to harmonize it with the philosophical light that was burning within him. Happily, at the cost of contumely, of persecution, of poverty, of essential martyrdom, he did the latter. Our great school of medicine is to-day his monument and epitaph.

In the light of a true metaphysic, disease must mean an *affection of the unity we denominate man*. It is a modality of his being, of his essential self. It is not something objective to him. It is not something in itself apart from him. It exists as a form or manifestation of him and cannot be treated. It is not an *it*, except in a figure of speech. This conception, perhaps now familiar to all of us in our

school to-day, is not to be found, nor is it consistent with the old medicine based upon the erroneous system of philosophy represented by a few minds from Democritus to Hume and Spencer. It is not long since medical writers spoke of disease of the liver as due to a little black devil that troubled its function. And the very vessels in which the agents were prepared for driving it forth from its usurped residence, were signed with a cross, and hence named crucibles as a testimony to the belief in the individual, actual existence of disease as something in itself. For centuries the humoral theories of disease had been accepted as an adequate explanation of the mystery of sickness, and largely fill the medical literature of the present day. Just at the close of the present century we witness in medicine a new phase of the old sophistry of connecting two secondary causes in a sequence, as antecedent and consequent—assuming one to be the efficient cause, the other the passive effect—a revival of Hume's doctrine which he claimed for the whole realm of knowledge. I refer, of course, to the germ theory of disease. For, granting the assumption that the germ always precedes the disease, the real causal nexus would still be unrevealed. Why does the tubercle bacillus cause disease? Who is diseased? What is the disease? These questions are all unanswered. We have succeeded in nothing further than in pushing the inquiry from one set of phenomena to another; and let it never be forgotten that within the sphere of the phenomenal, one phenomenon cannot be known as the cause, the efficient cause of another.

Homœopathy in its true doctrine escapes this pitfall by the conception of disease as a modality of the essential self, the ego, called by Hahnemann, to avoid technical dialectics, the vital force, the *spirit-like dynamis*. If disease is to be cured, it must be by a change in the ground or substratum of the changeable modalities of the soul in its unity. Phenomena can be altered, that is new phenomena substituted for others, only by changing the noumenal ground in which they inhere.

A moment's reflection will flash the "light of identity," as Professor Bain would term it, upon the reason why curative results may ensue from so-called psychological treatment, and will fully justify the true claims set forth for all those undoubted cases of relief following the influence of the mind over the body. Indeed this is so true that Hahnemann saw with the clear vision of a prophet that if a drug effect a cure it must be by virtue of a power capable of affecting the noumenal ground lying back of the phenomenal ap-

pearances. Hence he spoke of the spirit-like dynamis in the drug —meaning thereby nothing mystical or suppositious, simply that quality or potency which would modify the essential self of the patient, changing disease into health.

This conception led onward by logical necessity to inquiry as to how this truth was to be found. How could the essential self in the drug be related to the essential self in man? The philosophical school to which Hahnemann belonged taught him the answer. Without the intervention of experience his mind had attained to the idea, the mighty prerogative of a spirit in freedom, and must now seek the Law in the fact—in the thing made. This is always done through the mediation of experience, and always whether the Idea came before the Law, as in Kepler's planetary orbits, or Newton's Law of Gravitation, or the Law before the Idea, as in most of the inductive processes of science. The "proving of the drug" on the healthy was a rational attempt to experimentally determine its sphere of action on the noumenal spirit as revealed in the changed and changing modalities of the prover. The name of *similia* is only a name. It means that a drug will act in its *own* sphere and not in some other. By noting the action of Belladonna we discover that it dilates the iris—it does this, and not the opposite, in the healthy eye. If you ask why, no experience can answer. Experiment alone can reveal what a drug will actually do. It can give no clue to the reason for it. This is a transcendental inquiry. In like manner the question must be solved in reference to selecting a drug for the sick. Hahnemann put the inquiry again to experience. Will the drug that expands the pupil in health contract it in disease? This question legitimately grows out of the idea of proving the drug. Is the sphere of action given in the proving the only one in which a drug will act? If so, its action in a diseased state may be contrary to that in health, and had it not been for Galen's long-known formula of *contraria*, Hahnemann might have chosen a very different formula for our well-known law. We all know the answer of experience to this phase of drug-action. So far as the medical world knows to-day, there is no other authenticated rule. Even in the forms of Allopathic prescribing the curative results probably always follow the action of the vital force under this law of similars. But in our zeal for a formula we must not forget the far more important truth it is meant to concisely convey to us, the truth of the self-evident proposition that each and every drug acts in its own sphere, and not that of another drug, and these

spheres are revealed to us by discovering the action of drugs on the healthy.

But the doctrine of the demarcation of the real form, the phenomenal, the attribute from the substance, leads on to a broad challenge as to what is meant by the thing termed a drug. What is Opium or Pulsatilla? What do we give when we administer either of these? The plants will grow side by side, under the same conditions, and yet each retains its identity. What does the word species or genus stand for? To answer in full would carry us too far a-sea; but it is evident that there is a somewhat, a real, a noumenon, a *substance*, in each plant which appropriates and transforms its environment into modalities of its ever essential self. Call it the life of the plant, if you will—call it the individuality, or what not. Why not call it "that spirit-like dynamis" with Hahnemann? Whatever we call it, it has no qualities of time and space. It is not long or short—not heavy or light—not sweet or sour—not round or square. No such predicates can be attached to it. It cannot be weighed or measured or counted. No fraction, however large or small its denominator, can express it. It is a dynamic somewhat, a force, an entity, and our purpose in giving the drug, whether in large or small quantities of its space-filling forms, is to bring to bear the influence of this essential self of the drug upon the essential self of the patient. How much of the leaf, the stem, the root, the juice of the Wind Flower contains Pulsatilla? How little? Reason instantly replies that the terms, more or less, are wrongly used in this connection. The only truth, and the whole truth, is that Pulsatilla must pervade and form, and sustain, and control and cause to be, every part and portion of the plant—only this and nothing more. And therefore, and it is a most important therefore, the amount as measured by the balances, of the preparation containing the drug, that will affect the spirit-like dynamis in the patient, can be known only as the result of experience. No blind empiricist can be allowed to be our guide here. No absurd *à priori* assumptions can be tolerated at this point. We must interrogate nature. Happy are we if we can do it without prejudice, which blinds the eyes to the vision of truth.

It is very interesting to follow Hahnemann's mind in its growth toward the recognition of the infinitesimal dose under the leading of his metaphysical insight—a clear instance again of how the perversion of the Reason in its Idea may guide experience to the Law from the fact. The fact of potentization is thus rendered valid

by the deductions in the Reason, and the medical world has universally been forced to its recognition. The dispute is not upon the *fact*, it is upon the *degree*, of attenuation. Experience again must lead to the Law.

But to hasten to a close. These are a few points in which it may be seen how in universal science, and as well in a single field of its vast domain, viz., medicine, the potency and reality, the validity, the permanence of supra-physical ideas stand forth. Not only has science been indebted to the metaphysical, it has sprung from it as did the Hebrew nation from the loins of Abraham, as does the apple from the germinal seed. The metaphysical is possible without science; science is impossible without the metaphysical. Until the metaphysical brings to Science the meaning and laws of the phenomena with which she must deal, Science is blind. Homœopathy squares with the ultimate philosophy of man. If a new philosophy ever be discovered, there will grow out of it new arts and sciences, but thus far in six thousand years man has been able to set forth in reality but two systems or schools of thought. The one, out of which Homœopathy took its rise, into whose fruitful soil it sends its tap-root; the other, whence has sprung the old medicine, whose arid and rocky waste, the thought of Democritus, of Hume, of Hobbes, of Spencer, has but served to cover the more deeply with the ashes of Sodom. The latter is a darkened labyrinth without a light or guide; nothing but empiricism, looking in vain for any law or principle of being; assumption without proof, or power of proof eternally waiting, without power of progress, the coming of that guide which alone can lead it toward higher realms and reveal the laws of intelligence that constitute and embrace the laws of science. The former is the school which embodies the history and poetry, the religions and science of the race. The latter has denied the validity of all knowledge outside the sphere of sensations, declaring that there is nothing in the intellect that was not first in the senses, thus shutting the race into an eternal round within the treadmill of an experience incapable of ever rising above itself. Who can measure the influence upon human history, had Hippocrates gone to Plato instead of Democritus that day he reached Athens from Cos? Of course one can only conjecture, and yet no student fails to learn some of the deepest lessons from such questions as this. The stream of time is often compelled to make long detours because of seemingly slight obstructions in its course.

In conclusion: can the two schools of medicine then ever unite?

Yes and no. As easy would it be for Kant and Hume, or Plato and Spencer to unite. Kant and Plato spent the mighty powers of their splendid genius in demonstrating the complete validity of the deductions of the former school. The schools in their metaphysical ground separate as do oil and water. Kant must accept Hume's position, or *vice versa*. The schools can unite in the same way that the Ptolemaic and the Copernican views of the universe united. The old abandoned its errors and accepted the truth of the new. The new appropriated and interpreted whatever of truth there was in the old.

The order of thought in the old, with its bondage to traditions and its false methods of philosophizing must be all put away. It must be conceded that the sun no longer revolves around the earth, but the earth around the sun; a new centre of motion will be thus attained. Will such a result ever be reached? Yes, necessarily. All men now accept the views of Copernicus and Newton. But in reaching this result the two warring parties will imperceptibly change by the slow process of conviction—the protesting party, the radical wing, now represented by our own school, will eventually leaven the whole lump and we shall cease to exist as a protesting party, but it will be found that the old conservative school has yielded to the inevitable, and without knowing it, and without formal surrender, has been changed to believe in the truth for which we now stand. This is the way in which truth gains her silent but all-comprehensive victories. Individually we may not live to see the end, and it makes no difference to the cause of truth whether individually we accept it or reject it. The cause moves onward. I certainly have no concern whether Dr. Pasteur or his assistants accept the truths of Homœopathy. Nor do I think it worth while to entertain regrets that we cannot enlighten the Old-School physician. He is wedded to his idols as was Ephraim; let him alone. If at any time the prodigal come to himself and return, it will be then quite time enough to kill the fatted calf. He is a superficial reader who can see anything of hope in the union of the schools. We separate on grounds which we cannot reconcile,—not because we *will* not, but because we *cannot*. Our differences are *metaphysical*, not physical or medical so much, and all art, all practice, all science, in the last analysis is seen to be only the creature of the metaphysical principles that lie at its foundation.

REPORT

OF THE

SECTION IN SURGERY.

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Nerve Impingement in Operative Surgery.

By E. H. Pratt, M.D., Chicago, Ill.

They say that a human being has two minds—the conscious and the unconscious, or, as Hudson calls them, the objective and the subjective.

Granting this to be true, it is easily demonstrable that the objective or conscious mind is the animating principle of the cerebro-

spinal system and that the subjective, or the unconscious, mind in a like manner vitalizes the sympathetic nervous system. The conscious mind, which animates the cerebro-spinal system, receives impressions from the outer world and echoes back its judgments through the agency of the afferent and efferent nerves. By the afferent nerves it sees, hears, smells, tastes and feels. By means of the efferent nerves whatever the conscious mind wills and thinks can be transferred into physical expression. These nerves, or telegraph wires, of the cerebro-spinal system touch at their distal ends the surfaces and tissues of the body and at their proximal ends communicate with the gray matter of the brain and cord. No conscious sensations reach the body from the world of sense except as they are transmitted along cerebro-spinal nerves, and no action of the voluntary muscles is accomplished except as commands emanating from the gray matter are carried to striated or voluntary muscular fibres by means of cerebro-spinal nerve filaments.

In a corresponding manner is the unconscious or subjective mind provided with a nervous apparatus called the sympathetic system, by means of which it receives at its central stations, or ganglia, bodily reports of the wants and conditions of the various organs and tissues, and from which it dictates perpetually the unceasing activity of the involuntary muscles.

All of the activities of the body which are not chemical are accomplished by tubular structures, some small and some large; the sweat and sebaceous glands of the skin, the racemose glands and simple follicles of the mucous membrane, the salivary glands and the pancreas, the gall-ducts and genito-urinary tracts, the blood-vessels, bronchial tubes, lymphatics, and the alimentary canal, each and all of them, owe their activity to coatings of the involuntary muscular fibres, whose action is dominated by the sympathetic nervous system, the blood-vessels being the only exception, and yet not an exception, for the peristaltic action of the blood-vessels is influenced by the sympathetic nerve, although not exclusively, the motor influence from the cerebro-spinal system joining that of the sympathetic, thus forming a combination of influences from both nervous systems for the control of the circulation.

The sympathetic nervous system, like the cerebro-spinal, has both afferent and efferent nerves. By means of the afferent nerves bodily wants and conditions are made known to the nerve-centres. It is by the efferent nerves that the involuntary muscular fibres are kept in operation. The sympathetic nervous system, like the cere-

bro-spinal, listens to both harmonies and discords, to joyful and distressing communications, is thrilled by delightful inspirations or benumbed by shock, by the system of telephone or telegraph wires called nerves. There is this difference, however, in the alarm-cry of the two systems: When alarming reports come from the outer world to the cerebro-spinal centres, and the harmony of its domain is seriously disturbed, they express their discomfort in the language of pain, while the alarm-cry of the sympathetic system is told in the form of functional derangements. By means of repeated intercommunications the two nervous systems can be mutually cognizant of each other's operations, and aid or antagonize each other in their daily work, as they are harmonious or discordant. The conscious mind can be terrorized by suggestions of danger from the offices at the distal ends of its wires, and the unconscious mind may refuse to sympathize with the alarm, and perform its functions perfectly regardless of the consternation prevailing throughout the cerebro-spinal system. On the other hand, the unconscious mind can be badly demoralized by irritations conveyed to the nerve-centres along its afferent nerves, and the functions over which it presides be seriously disturbed, and the conscious mind, although perfectly aware of the mischief going on may refuse to heed the distress of its companion sovereign. Perfect specimens of humanity, in which the conscious and unconscious minds work in unison, are, indeed, rare, and have little use for doctors. Our business is with those whose house is divided against itself.

The foregoing anatomical facts have an important bearing in the considerations of nerve impingement in operative procedures, from the simple fact that the nerves of either system are through trains, and that the communications which pass along them either from the world of matter to the world of mind, or from the world of mind to the world of matter, are sent from their extremities and not in their continuity. Especially is this true of the cerebro-spinal nerves. If an ultimate nerve filament of the cerebro-spinal system be microscopically examined, it will be found to consist of a central thread or axis-cylinder, which is the nerve proper, an insulating medium, more or less fatty in its nature, called the white substance of Schwann, and an enveloping tubular sheath of membrane, called by some the neurilemma, the insulation in each case extending the entire length of the filament from the brain substance at one end to its terminus in the tissues at the other end. At its two extremities only is the axis-cylinder exposed and sensitive to im-

pressions. The distal terminals of the sensory or afferent nerves of the cerebro-spinal system are located chiefly in the integument, and are very thickly placed in the papillary layer of the cutis vera. This is why injuries of the surface of the body, as burns and lacerations, are painful and dangerous from shock in proportion to the amount of skin surface involved, rather than to the depth of the injury, for alarming intelligence from a chorus of nerves can produce more bodily apprehensions than can be set up by a few individual fibres.

The terminals of the motor or efferent nerves of the cerebro-spinal system are found chiefly in the voluntary muscles, and the main effect of injury to them is loss of muscular power. The nerves of the sympathetic system differ from those of the cerebro-spinal in that they possess no axis cylinder, appearing like prolongations of gray matter enclosed in a delicate neurilemma. For this reason, while communications pass along them from the two extremities of the nerves, the impingement of the nerve trunks in continuity is more disastrous than in the case of the cerebro-spinal nerves. When a nerve of either system is severed or ruptured, or excessively impinged upon, communications to the nerve centres may be made from the point of injury or impingement, but not so distinctly as from the nerve terminals, because of the protection extended by the neurilemma, and in the case of the cerebro-spinal system by the insulating medium or the white substance of Schwann.

Operative surgery involves not only the making but the closing of wounds. The making of wounds is always prescribed by the necessities of the case. In the extirpation of tumors and foreign bodies, in the excision of joints and the removal of dead bone, and in the evacuation of abscesses and the openings of cavities, the nature and extent of the wound involved is prescribed by the nature of the work to be accomplished. It must be long enough and deep enough and convenient enough to be adequate to its purpose. But it is in the closure of wounds that there is great room for improvement, and it is the object of the present paper to call the attention of surgeons to the necessity of a more extended respect for the anatomical considerations which we have briefly outlined than has been their wont in the closing of wounds after all forms of operative procedure.

The surgical habits of to-day are seriously at fault in that they involve unnecessary pain, shock, and thereby endanger not only the success of the operation itself, but the general prosperity of the patient.

In behalf of suffering humanity I beg leave of the convention to plead for a reform in two particulars of surgical practice, viz., the coaptation of all wounded skin surfaces by subcutaneous stitching, and the avoidance, as far as possible, of the nerve impingement involved in the ligation and clamping of tissues *en masse*.

Let us first consider the subcutaneous closure of surface wounds. When a stitch which pierces the skin upon both sides is tightened, it impinges steadily and severely upon the terminal ends of the afferent or sensitive nerve fibres of the cerebro-spinal system which have their distribution within its grasp. The distress occasioned is not only a source of general discomfort, and of more or less consternation to the consciousness of the patient, but involves also an undue activity in the underlying voluntary muscles, for the afferent nerves are closely associated with the corresponding efferent ones, thus placing muscular action and surface sensation in sympathetic association. A subcutaneous stitch which will fully as satisfactorily accomplish the coaptation of the skin margins dispenses with much of this discomfort, owing to the fact that a moderate impingement of the nerve trunks is materially less painful, and consequently less harmful, than an equal impingement of nerve terminals. In amputations, in resections, in abdominal, thoracic and cranial work, and in perineal work, a subcutaneous stitch is equally effective with the present practice of skin piercing and pinching, and it is attended with so much less pain, shock and general discomfort to the patient that it should become a universal practice.

There are two ways of accomplishing subcutaneous stitching. One is longitudinally and the other perpendicularly to the wounded surfaces. The stitch should puncture the deeper layers of the cutis vera, care being taken merely to avoid wounding the papillary layer. The deep layers of the skin are sufficiently tense and substantial to afford all the support necessary for the closure of wounds. The subcutaneous method of stitching has the advantage also of causing less interference with the capillary circulation of the parts involved, and therefore insures a better healing than is obtained by the common method of coapting wounded skin surfaces by skin piercing and impingement.

Now as to the avoidance of nerve impingement by the ligation and clamping of tissues *en masse*.

There are five exceedingly bad surgical habits which seem to me to need correction. They need correction because they are clumsy, unsurgical, unscientific and cruel in their nature and unsatisfactory

and frequently disastrous in their effects, and because they are wholly unnecessary. The sooner they are abandoned, therefore, the better it will be for both surgeons and their patients. In all cases they involve the severe impingement, either by clamp or ligatures, of large masses of tissues and their contents, nerves and all, *en masse;* in all cases they therefore produce unnecessary shock to the patient, and in all cases they endanger the vitality of the constricted stump and tend to the formation of sloughs, thus favoring secondary hæmorrhage and septic conditions.

The five bad surgical habits referred to are:

1. The deep sutures so frequently employed in closing abdominal wounds and in the operation for laceration of the perinæum and in the American operation.

2. The ligation of the omentum where its amputation is demanded.

3. The ligation in segments, or *en masse*, of the broad ligaments, or of the uterus itself, or both of them, in the removal of ovarian and fibroid tumors by the abdominal route.

4. The clamping or ligating of the broad ligaments in vaginal hysterectomy.

5 and last. The removal of hæmorrhoids by ligation.

Let us briefly consider them in the order mentioned:

First bad surgical habit: The deep sutures so frequently employed in closing abdominal wounds and in the operation for laceration of the perinæum and in the American operation.

The practice of employing deep sutures in the closure of abdominal wounds—and by deep sutures I mean those which penetrate the entire thickness of the abdominal walls on either side—I am glad to say is no longer universally practiced; but nevertheless it is sufficiently in vogue to deserve brief mention in the present connection. Deep abdominal stitches afford no added security to the wound, interfere with the nutrition of the part, add materially to the danger and the suffering of the patient by the added pain and shock which they involve, invite inflammatory action, are in no way essential to recovery, and in every way are mischievous and undesirable. They not only unduly pinch and distress the outer integument within their grasp, but also the peritoneal surfaces, and their grasp upon the recti muscles induces muscular spasm without excuse for it.

In closing abdominal wounds in the median line it is sufficient to coapt the wounded margins of the peritonæum, the severed

sheaths of the recti muscles and by subcutaneous ligation the severed margins of the integument in three separate continuous sutures. Where the abdominal wound has been made laterally and it is has been found necessary to sever muscular tissue, in such cases it will be necessary to coapt the severed muscular fibres. But in no case should muscles be stitched when their fibres have not been severed.

In closing a perinæum deep stitches are necessary to coapt the posterior extremities of the sphincters vaginæ and the transversus perinei muscles, but only two or three stitches are necessary, and these should not include the skin. The needle should enter the wounded surface close to the margin of the skin upon one side, pass through the extremities of the muscles to be reunited and find its exit close to the skin on the opposite side, so as to avoid skin impingement. Subcutaneous stitching can be relied upon for the surface coaptation.

One reason for failure to secure satisfactory results in the American operation is, that the stitching employed is not only of the variety of skin puncturing and pinching, which we have already considered, but that the stitches are frequently so deep as to pierce the fibres of the external sphincter muscle, thereby inducing spasmodic contraction of the same and tearing the margins of the wound apart, or in cases where healing takes place inducing a clumsy and strictured condition, which requires subsequent correction. Subcutaneous stitching practically solves the only remaining problem of the American operation and robs it of its terrors. The pain following subcutaneous stitching in the American operation is so greatly reduced that the patients seldom suffer, sphincter contractions are avoided, healing by first intention is ensured and quicker and more satisfactory results are thereby attained.

The superiority of the subcutaneous stitching, both in the deep and superficial threads, is surprising both in the healing of the parts and in the comfort of the patient.

Second bad surgical habit: The ligation of the omentum where amputation is demanded.

It is mainly to avoid squeezing sympathetic nerve plexuses that the wadding together of the omentum by the application of a tightly-drawn ligature is objected to. The hæmorrhage can be easily controlled by a running stitch which includes each blood-vessel in a separate loop, and, when it is tightened, ligates the blood-vessels and successfully controls the hæmorrhage without pinching the

other omental tissues. This is by no means difficult of accomplishment, takes but a trifle more time than is required to ligate the omentum *en masse*, and avoids undue nerve impingement.

Third bad surgical habit: The ligation, in segments or *en masse*, of the broad ligaments, or of the uterus itself, or of both, in the removal of ovarian and fibroid tumors by the abdominal route.

The sympathetic plexuses of nerves enclosed within the folds of the broad ligament are large and correspondingly influential in the bodily economy; and whereas it is always in order to ligate blood-vessels to control hæmorrhage, it is never in order to tie nerves, especially when it is just as easy to control the hæmorrhage without doing so.

There are two places on each side of the female pelvis where hæmorrhage is liable to be encountered in the removal of the ovaries and uterus, and these are at the outer and inner edges of the broad ligament, the first place being marked by the point where the Fallopian tube and ovary meet, and the other being situated just below the angle of the attachment of the Fallopian tube to the uterine margin. The dissection of the ovary and tube from the broad ligament can be started at their outer extremities, and when the blood-vessels are severed it is a simple matter to secure them with artery forceps. As the Fallopian tube and the ligament of the ovary are carefully dissected away, should other blood-vessels be encountered, it is an easy matter to seize them with forceps. In this manner the dissection can proceed as far as the uterus, at whose margins the hæmorrhage which occurs can also be secured in the same manner. A continuous suture can now be applied along the severed margins of the broad ligament, beginning at its outer margin, and at every point where an artery forceps seizes a blood-vessel a loop of the continuous suture can be thrown around it sufficiently tight to secure the artery and at the same time coapt the wounded margins of the broad ligament, so that no wounded surface shall be left in the peritoneal cavity. This practice can be followed as far as the uterus, at which point one or more additional loops of the continuous thread will be needed to secure the bleeding vessels in the grasp of the artery forceps. The other side can be treated in a similar manner if it is operated upon. The uterus itself, if it is to be removed, can be amputated on a level with the floor of the pelvis, or even below the internal os, by the flap method, without the slightest difficulty. It never bleeds to any extent, and there is not the slightest excuse for choking it with a ligature. The margins of the uterine

flaps can be coapted by the same threads which formed the lateral continuous sutures, and as they meet in the middle can then be tied together. By this process ovarian and fibroid tumors, regardless of their size, can be easily and expeditiously removed without tying anything except blood-vessels, securing even these with loops of the continuous thread which coapts the wounded margins of the peritonæum, and after the work is performed, all the relics of the operation left in the pelvis are simply the absence of the organs and a narrow, uninterrupted seam from the outer margin of one broad ligament to the outer margin of the other. Of course, where extensive adhesions are present, modifications of this procedure will be called for. But there is no excuse on any occasion for the ligation or clamping of masses of tissue, as is now so commonly practiced. The difference in the degree of shock to the patient and the difference in the degree of health subsequently attained by this method of securing the stump and the ordinary method in vogue is simply remarkable, and the method just described has so much to commend it, and it is so entirely free from every objectionable feature, that there is little excuse for the continuance of the practice of securing pelvic pedicles by the old method of either clamping or ligating large masses of tissue.

Fourth bad surgical habit: The clamping or ligating of the broad ligaments in vaginal hysterectomy.

There are many serious objections to the employment of either clamps or tissue ligatures in vaginal hysterectomy. The danger of wounding the ureters or the intestines where adhesions are present is not inconsiderable, nor is secondary hæmorrhage from the sloughing which is usually induced uncommon, and so far as the employment of clamps is concerned they are liable to slip their hold and fail of their purpose to control the hæmorrhage, in addition to the irritation and inflammation which they set up and the distress to the patient while they are retained in position for twenty-four or forty-eight hours. But these and many other objections which may fairly be urged against securing the broad ligaments in the grip of either clamp or ligatures do not properly concern the purpose of the present paper.

The great objection, which is our present concern, and the only one your attention should be invited to in the present paper, is the fact that when the broad ligaments are squeezed by either clamp or ligature to a sufficient extent to control hæmorrhage, not only the blood-vessels but all of the intervening tissues are badly pinched.

This means, aside from a considerable expanse of peritoneal surface, the larger plexuses of sympathetic nerve fibres which lie within its folds. The effect of excessive and protracted pinching of these important plexuses of nerves is to induce severe functional disturbance not only in the remaining pelvic organs but in all functions of the body that are dominated by the sympathetic nerve, for the distress telephoned by these plexuses to the sympathetic nerve centres creates a great disturbance of the entire sympathetic nervous system.

The removal of the uterus and its appendages in cases where such an operation is demanded, and in which the vaginal route is decided upon, can always be accomplished by dissection. In fact, many cases are operable by this method that are inoperable by the clamp and ligature methods, and hence there are no operable cases which cannot be satisfactorily handled by the dissection method. The field of operation is always within view, and as blood-vessels are wounded—which, of course, is frequently the case—it is a simple matter to seize them with artery forceps and either ligate them as they are encountered or secure them in the subsequent closure of the wound. The details of accomplishing this have been several times published in the *Journal of Orificial Surgery*, and can also be found in the *Fischer-Macdonald Homœopathic Text-Book of Surgery*. As long as nerve pinching in vaginal hysterectomy is both harmful and unnecessary it seems but reasonable to conclude that it ought to be abandoned.

Fifth and last bad surgical habit: The clamping or ligating of hæmorrhoids.

Nine years ago Prof. Agnew, during a college clinic, presented to the class a case of fistula. The man was placed under the influence of ether and the case successfully operated upon, and in due time dismissed. A year later the same man presented himself to the same clinic, and the same man gave him the same anæsthetic, and the same surgeon, Prof. Agnew, himself, proceeded to operate upon him for hæmorrhoids. The patient took the anæsthetic just as kindly as he had done the year previous. When he was profoundly asleep Prof. Agnew proceeded to remove the piles by the orthodox process of ligation, but, strange to relate, as soon as he tightened the ligature around the first pile tumor the anæsthetizer called his attention to the general condition of the patient, who had stopped breathing and was rapidly becoming cyanotic. Prof. Agnew rose from his chair, observed that the man was breathless and rapidly

becoming pulseless. Active measures for his resuscitation were immediately inaugurated. Artificial respiration was practiced with the patient in the horizontal position, and also with the head and shoulders dependent. Electricity and all other means at the command of Prof. Agnew and his assistants were employed, and proved unavailing. The man's spirit went out, and neither Prof. Agnew himself nor any of his assistants, nor any of the gentlemen present, seemed to think far enough or know enough to cut the string which was all this time strangling the pile tumor and terminal filaments of the sypathetic nerve, and by sympathetic communication was paralyzing the action of the phrenic and pneumogastric nerves. Prof. Agnew himself clearly and carefully described the case in all its painful details in a prominent medical journal, and yet I have seen no comment either in that journal or in any other upon the ignorance manifested in this case concerning the disturbance to the respiration which follows injury to the rectal nerves. The death was, of course, attributed to the action of ether, and yet the patient had taken it safely the year before and was acting kindly under its influence at the time of the last operation until the very moment at which the ligature was applied about the pile tumor. This point was very carefully made by Prof. Agnew himself in the description of the case, and yet it never occurred to him that the ligating of the tumor had anything to do with the man's respiration, and that the cutting of the string which bound the tumor, accompanied by slight dilatation of the sphincter, would have immediately restored the man to animation.

This is by no means the only death which has occurred from the ligation of hæmorrhoids, and which has been attributed to the action of the anæsthetic. But aside from its immediate danger, the practice of ligating hæmorrhoids has no possible excuse for existence. This method of treatment was inaugurated at a period in rectal surgery when there were no proper instruments with which to expose rectal tissues and place them at the command of the surgeon. The fear of hæmorrhage in an inaccessible position was the excuse for the measure. But that excuse has long since passed away. By means of modern rectal instruments the rectal tissues can be so thoroughly brought into view that the operating field in anal surgery is as perfectly under the observation and control of the surgeon as is any other part of the human body, and there is no longer the excuse of necessity to uphold the continuance of this barbarous practice.

If a tumor is to be removed let it be amputated, and if the part bleeds let the blood be secured by ligation if necessary, although the fact is, in hæmorrhoidal work it is very rarely called for.

It is not my purpose in the present paper to consider the various methods of treating hæmorrhoids and discuss their comparative merits, but simply to protest against an undue and unnecessary nerve impingement in rectal work as in all other operative procedure. The nerve impingement of cerebro-spinal fibres may induce muscular contractions, either clonic or tonic, and is responsible for much of the pain, irritability, inflammation, sepsis and death of surgical cases. The nerve impingement of the sympathetic system disturbs functions and lowers vitality. As, then, the impingement by clamps or ligatures of nerve trunks of either the cerebro-spinal or sympathetic system in cases where the shock which it occasions does not immediately kill, disturbs, devitalizes and more or less permanently maims the patient upon whom it is practiced, it should in all reason be eliminated as far as possible from all surgical procedures.

DISCUSSION.

J. M. LEE, M.D., Rochester, N. Y.: This is a very remarkable paper from the pen of a very remarkable professor. It begins with theory and ends with theory. Dr. Pratt says he has removed or enucleated the uterus without the clamp or ligature, and does not have any hæmorrhage or shock following the operation. Has Dr. Pratt never had any shock after his operations? Do not his patients sometimes die? He certainly has had both shock and death from hæmorrhage, and his record is no better, if as good, as that of others. He also talks about the terrible consequences of nerve impingement from ligaturing the broad ligaments, the omentum and hæmorrhoids; yet he does not bring forward any proof of his statements. Surgeons of both Europe and America have practiced all of these abuses, as Dr. Pratt calls them, without any bad results.

It can readily be seen, gentlemen, that this is the paper of an egotist. No man can stand before this Society and say that this or that is the only course to pursue without being an egotist.

GEORGE F. SHEARS, M.D., Chicago, Ill.: While I agree with the author of the paper in many things, especially in the sentiment that so far as possible in the ligation of arteries the ligature should include only arterial tissue, I must enter my protest against the general deduction which he makes from a single case. It is not at all clear to my mind that in the fatal case referred to the man's death was the direct result of the application of the ligature or nerve impingement. *Post hoc ergo propter hoc* is not always a safe formula. Too many elements enter into almost every surgical case to permit

this simple course of reasoning. I remember a patient under my care in the hospital upon whom I made two operations, the first upon the tibia for necrosis, the second upon the rectum for fistula. He recovered nicely from both. Three weeks after the last operation he came into my office, and while talking to me fell to the floor and died in a few minutes. Suppose the same cause that produced his death had been in force while I was operating upon him for fistula, how natural it would have been to have made a positive statement that it is more dangerous to operate upon the rectum than upon the tibia. We need many cases in order to make so broad and positive a statement as was made by the author of the paper. I have tied the omentum *en masse* many and many times while operating for the radical cure of hernia and have never had a bad result, and have no reason to believe that nerve impingement was an appreciable factor. I have used the ligature in the treatment of hæmorrhoids without any bad results from tying *en masse*, while, therefore, I believe in the surgical principle that when practicable the ligature should include only arterial tissue, I also believe that the emphasis placed by the author on nerve impingment is unwarranted.

L. G. WILBERTON, M.D., Winona, Minn.: I think I have known Dr. Pratt as long as any one here, and I am not going to get up and say that he is not an enthusiast, but I will say that he is not an egotist. He is an enthusiast, but I do not think he has a drop of egotism in his veins. We all know that mental influences have a wonderful control over patients during surgical operations. I saw one operation which lasted about an hour, while the patient was in a hypnotic trance and perfectly unconscious of pain.

Many other cases have been reported, and we as surgeons can enhance our anæsthetics very much by a correct understanding of these things. As to the use of clamps, I cannot discuss this with Dr. Pratt because I am not so skilled a surgeon as he. Dr. Pratt teaches to a large class of students that it is never necessary to use clamps; now the result is that these students go out into practice, and not being so able to operate as Dr. Pratt by this method they lose many cases. Many young men are trying to enucleate the uterus without clamps, and if they were as skilful as Dr. Pratt they might do it all right, but I think in the majority of cases a single clamp is no more injurious to the nerves than ligatures themselves. I don't think Dr. Pratt would ask you to decide from a single case. We do know that ligating hæmorrhoids for some reason or other has a very bad effect on the patient, and I think he is right when he recommends its relegation to the past. I remember one case in which just before operating I introduced the rectal speculum, and the patient collapsed; I removed the speculum, and she came to; put in the speculum again, and she died. Dilatation will not always bring a patient to life, so we must be cautious in our statements. Dr. Pratt possibly in his enthusiasm makes statements which seem a little too radical, but still we owe him a great deal and should give him due credit for what he has done for our school.

C. E. WALTON, M.D., Cincinnati, O.: It is not the worst possible criticism to make of a man's paper to say that it begins with theory and ends with theory. We must look all along the line of the paper if we expect to draw proper deductions. Theory precedes work and work precedes theory. The central idea of Dr. Pratt's paper is *accurate operation*. If you attempt to tie an artery, tie the artery alone, and do not include the nerves that run along by the side of it. Carefully isolate your vessel before you tie it, because if you injure the nerve it means much to your patient. The sympathetic nerve, if injured, is liable to produce what we know as shock, and sometimes when you think you have finished your operation nicely, the sympathetic nerve gives out and the heart lays down for you. I have held post-mortems in these cases, but could find nothing, and was led to infer that it was the sympathetic nervous system which had been injured.

O. S. RUNNELLS, M.D., Indianapolis, Ind.: I want just to say that the last word which has been said is not all that there is to say. We have just begun to appreciate the important rôle which the sympathetic nervous system plays in life. The action of the sympathetic nerve force is beyond our comprehension. All we know about nerves has been gained from the sensitive nerves, the nerves that make us say "ouch." The sympathetic nerves are very feeble in making pain known; they have the internal life work to carry on. Impingement of these nerves causes restlessness and even shock, and, although they do not give out pain, yet, when you pinch them, you do a great deal of damage to the patient. You must be very careful and not injure the sympathetic terminals. When the statement is made that it does not make any difference how much you pinch them, I am not willing to accept that as final. I am not going to speak in defence of Dr. Pratt, because he does not need any defence. He has made men think on some subjects more than any other man has, and he has started a line of investigation here which will lead us on to wonderful results. He has been the pathfinder in this line of work. He has been of very great help to me, and I do not believe there is anybody here who will not accord him this tribute. I have worked along this line to some extent, and I have been very much gratified with my results. It is a question only of proof, that is, facts, and plenty of them.

J. S. BARNARD, M.D., Baltimore, Md.: I have a word which I would like to offer up in this discussion—not that I agree with Prof. E. H. Pratt entirely, but I want to say a word in his favor. Dr. Pratt has done a great deal for the Homœopathic profession in this line; we used to follow the Old School, but to-day we follow a man in the New School. Now a word about clamps on the broad ligaments. I don't know why we should use them; it matters not whether the operation be supra-pubic or infra-pubic; we do not need them except where disease exists and we have to operate quickly. I have used clamps twice in cases of this kind, and they gave me suppura-

tion both times. I don't believe you can compress human tissue without getting suppuration afterwards. Something about subcutaneous stitches; I don't like them, nerve impingement or not; Edibold thoroughly condemns them. To close the integument is not enough, because there is a certain amount of effusion takes place between the integument and the superficial fascia. I believe we should use silver wire and bring the parts well together. I place the sutures one-half inch apart, and am careful about drawing them too tight, and I never have any nerve impingement. In regard to rectal work, some of us can take this right up and some of us have to have a great deal of experience. Dr. Pratt has taught us at least that we do not need clamps in rectal work, and, if we don't need them, why use them?

E. H. PRATT, M.D., Chicago, Ill.: Before closing this discussion I would like to take a vote and see if there is any one here who will accuse me of thrashing over old straw. The vote resulted in Dr. J. M. Lee and Dr. C. E. Fisher saying that the paper just read contained many things which they had heard him say many times before. I am not irritated, but will confess that I can see some things now which I might scratch out. You can be sure of one thing, however; I will never present anything to this society without I know what I am talking about. If you knew the number of cases which I have treated in this way successfully you would agree with me. I don't think Dr. Lee has had much experience with subcutaneous stitches. He don't want to get up here and say he don't like theory. What has ever been done that don't start with theory? I will take it as a compliment that he says my paper started and ended with theory. Let me have good theory and I can manage the whole world. I won't promise to instruct him on any surgical subject, but Lee is not the only man here that I cannot teach anything to. At first the whole profession laughed at me, but they did not understand the forces with which they were dealing. I studied anatomy for many years and came to my conclusions from hard practical work. Fisher is another man that I cannot teach anything to, he will have to find it out by experience. This paper is the outgrowth of my experience. I am happy to-day, but a few years ago I was miserable because I was struggling in the dark. I have made great advancement in my surgical methods, and now among other things I can control hæmorrhage in the way I have described. I have lost lots of lives, but I am not losing many now. It costs lots of lives to make a surgeon, and you have to fight it out for many years in this way.

Spare that Inch.

By C. E. Walton, M.D., Cincinnati, Ohio.

A worthy German who had been visiting a famous resort and had suffered from the consequences of partaking too freely of its laxative waters, gave the following advice to a friend who contemplated a visit to the same resort for personal sanitation: "Mein freint, ven you veel like doing vat some oder peoples haf done, dond you do it."

This advice epitomizes what I have to say about saving the pile-bearing inch. When you feel like removing it as others have done, "don't you do it." The temporary embarrassment of the German may become the permanent occupation of your patient.

What then shall be done with the pile-laden inch and the usually accompanying rectal ectropium?

The object of operation in this class of cases is to remove the tumors and restore the function of the rectum. The ectropium is due to the presence of the tumors. As a result of their presence the adjacent connective tissue becomes hypertrophied and the mucous membrane congested and frequently ulcerated. This region is not in any way exempt from the application of the dictum "remove the cause." Ordinarily the cause of a pathological condition being removed, the normal condition supervenes. How then shall the cause be removed without jeopardizing the function of the rectum?

The indications may be met by an amplified "slit operation," or it might better be called the dredging operation; for the result is the channeling of the connective tissue not only beneath, but on both sides of the pile tumors. A preliminary dilatation brings the tumors easily into view. For convenience of inspection and operation begin with the posterior tumor and with curved scissors remove a strip from a quarter to a half-inch broad along the entire meridian of the tumor. Pushing back the mucous membrane, next remove the tumor and its adjacent connective tissue both beneath and laterally. This will leave a channel running up the rectum and extending sometimes out beyond the anal verge.

Treat each tumor in a similar manner, leaving the tumor nearest the perinæum to the last. There will thus be several channels cor-

responding to the number of large tumors, each separated by an isthmus of mucous membrane and connective tissue. If any vessel spurts, torsion alone will stop it. Dress with a small iodoform tampon, keep patient on fluid diet for three days, move bowels on third or fourth day, have patient sit up on fifth day, let them go out of the hospital on the seventh day.

This operation preserves the rectal sensibility which is so necessary to the performance of the normal rectal function. The fecal matter never steals down from the sigmoid barricade to find the sphincters "off guard" at the outpost. The patient never becomes the victim of misplaced confidence, and the surgeon escapes the unenviable necessity of defending a malpractice suit or listening to the endless maledictions of his damaged patron. Were I to parody a poet's inspiration and couch my warning in supplicating strain, I would say:

Surgeon! spare that inch!
  Remove it not from me,
I fear to lose the clinch
  So dear to even thee.
I long have known its grip,
  In fact was with it born.
If now you make it slip,
  I must forever mourn.

Remove the ancient pile
  From off its mucous site,
But leave, ah, leave the while
  That needful sphincter tight.
Revere the good it's done,
  The good it still would do.
Cause me not all to shun,
  Through rash deed wrought by you.

E'er since a little boy,
  I have so near it sat,
To lose it now, what joy
  Could recompense for that?
I've trusted it so long,
  Its confidence, I swear,
Shall suffer from no wrong,
  So leave that old inch there.

My heart needs its reflex,
  So stay thy ruthless hand,
And leave that inch complex
  Unharmed on guard to stand.

Old inch! Thy pain still brave!
Go, surgeon! Leave this spot.
While I've an inch to save,
Thy knife shall harm it not.

DISCUSSION.

E. H. PRATT, M.D., Chicago, Ill.: I had a little private conversation with him, and I said, Walton, most people talk most about what they know the least; the title of your paper shows me one thing, either that you never performed the operation yourself, or else you did and had very bad results.

A. L. MONROE, M.D., Louisville, Ky.: I just want to say a word. Sometimes if you give a man an inch he will take a mile. I understand that a paper cannot be read here that has been read at other meetings. This paper was read at the Miami Valley and Kentucky Societies, but he said that did not count, as it was better to try the American on dogs before trying it on any one else. As I have it from Dr. Walton, that he has never yet done this operation, I would recommend him to try *it* also on the dog before risking his "prentice hand on man."

C. E. WALTON, M.D, Cincinnati, O.: I thought I would get more of a discussion out of it than this. The only time I ever did the operation in question was on a dog. I was in that stage of my career when I was not above operating on anything, and the dog made a good recovery. Things have come to a pretty pass when a man cannot get up here and criticise an operation simply because he has never done it. Suppose I took my watch to a jeweler and said to him, "Why in thunder didn't you fix this up right?" And he would say, "Did you ever make a watch?" I wanted Dr. Pratt to tell us when it was necessary to make this operation. The reason why I was led to write this paper was because I read a book on orificial surgery written by Dr. Pratt, and in that book he warns all men that this is an operation in which there is a great deal of danger if not done carefully and by one skilled in his work.

DR. GREEN, Little Rock, Ark.: While we must admit that there are some cases of hæmorrhoids where no other operation than the American will answer, it is now conceded by all practical surgeons that it is an operation to be avoided when possible. I have performed it more than one hundred times. There are among this number three in whom I would like to restore that inch.

A short time ago a lady consulted me concerning a blemish of the face. In the conversation that followed she informed me that she had been subjected to the American operation two years before, and ever since she had been compelled to wear a napkin, and further, a friend of hers and her daughter, who accompanied her, had submitted to the operation, and they also suffered from inconti-

nence of fæces. I could speak of many others of the same character. I have had numerous letters from patients in different parts of the country asking to be relieved of this most humiliating affliction. I dare say every surgeon in this house has had a similar experience. While it is true that there are cases that require the American operation, in which no other will give the desired results, it is also true that it is an operation that demands skill and judgment in its execution, and none but surgeons of experience should attempt it.

J. C. Wood, M.D., Cleveland, O.: I simply want to state that two years ago I wrote a paper for the Denver meeting, in which I condemned the operation, but a short time after that I performed it. Now this simply goes to show that there are cases where nothing else will do. Conditions will perhaps be present where the excess of tissue is so great that nothing short of the most radical measures will suffice. It does not do for us to be too dogmatic in matters surgical. Only a week ago a woman, who was compelled to wear a napkin as a result of this operation, came into my office, and I have seen 15 or 20 cases of this kind. But most of these bad results are due, I think, to surgeons who are not familiar with the operation.

J. S. Barnard, M.D., Baltimore, Md.: I think we do wrong to condemn this operation simply because we have not been educated up to the use of the speculum. I think many times the bad result is due to the fact that too much force has been used, and the sphincter muscle paralyzed. When we learn how to use the speculum, we will not have bad results so often.

E. H. Pratt, M.D., Chicago, Ill.: Do operations for lacerated perinæum ever fail? Are you surgically tolerant in operations in other parts of the body? These operations fail as well as the American operation. The napkin is not a necessary result of the American operation. It is a simple matter to lift the mucous membrane and complete the work; sometimes the longitudinal muscles should be loosened, and the result is perfect. These people that are howling around the country are curable cases if you know how to do it. All that is necessary is to find out why things are so, and be surgically tolerant. I have had many of these results, and I know something about this operation; it is a last resort with me; it is a last resort in many conditions, such as paralysis, epilepsy, etc. Question: How do you repair these cases that go wrong? They are all individual cases, and must be treated accordingly. I would not be able to tell what to do without seeing the case.

C. E. Fisher, M.D., Chicago, Ill.: I believe Dr. Barnard has struck the key-note in this matter. It is not necessary to condemn this operation because failures have resulted. I have seen Prof. Pratt use the speculum with more force than I would dare to apply. Rupture of the sphincter has been caused by unnecessary force in many

instances. I don't mean to reflect upon Prof. Pratt either. We are here to analyze this subject thoroughly, and find out why people are wearing napkins. Let us get down to the bottom of it. I don't believe I have ever had that result in any of my cases. I think where the expressions are so radical as the doctor has made them in his paper, to the effect that it is an operation easily performed, it leaves a wrong impression, and invites disastrous results at the hands of tyros.

E. H. PRATT, M.D., Chicago, Ill.: Mr. Chairman, if I am on trial before this convention, I want to know it. I don't mind being on trial if I can have some chance to talk back. I don't use much force with my speculum, and the only way Fisher can tell how much force I use is by being at the other end of it.

C. E. FISHER, M.D., Chicago, Ill.: Dr. Pratt knows that I have been his friend both in my journal and in college. I have lost many friends by standing by Dr. Pratt, and have been accused of conducting an orificial journal. I have seen cases—have one in mind now —which I know are incurable, and will always have to wear napkins. But, after all, enthusiastic men are necessary for advancement in any branch of science. To my mind it is very clear that this operation is a commendable one in many cases, but it has been overdone, and often badly done. Now, the reason why I objected to the terms "American" and "Whitehead" operations being used synonymously is, because they are two entirely different operations, and I want Dr. Pratt to have due credit for what he has done for Homœopathic and American surgery.

J. C. WOOD, M.D., Cleveland, Ohio: I regret exceedingly that any personalities have entered into this discussion. Dr. Pratt has done indirectly, by constantly insisting upon the simplicity of his methods, lots of harm, yet he has accomplished with it much good, and the profession is deeply indebted to him. I do not believe that it is over-stretching of the sphincter that causes the trouble. I am a great believer in dilatation, and have never had or seen a case of incontinence where the mucous membrane has been left undisturbed.

O. S. RUNNELLS, M.D., Indianapolis, Ill.: This is really a very important question and we are here to-day to settle it. But it has two sides, and we cannot settle it by looking wholly at one side of it. Sometimes these bad results are due to poor surgery, but not always, and I really believe that the majority of them are due to the patients themselves, who for one reason or another prematurely stop the treatment. They will have the operation performed and then listen to adverse criticism, and on this account or the attendant suffering incidental to the post-operative treatment, let the work go half-finished.

I have had unfortunate cases of that kind myself, where I was

confident that the work was going on successfully, but they would not help me, they would not stand by me. The work should never be undertaken at all unless there is a great necessity for it, then as a last resort do the American when no other operation will promise any benefit. I had a case some time ago, a little woman who had been reduced in weight from 150 to 70 pounds, and in every way was in a very bad condition. I performed the American operation on her, and in five weeks she had gained 24 pounds. I have performed this operation in 250 cases, and I never have had such bad results as some of you have reported here to-day in any patient that has given his case the proper post-operative care. I have had a half-dozen cases, perhaps, which were very unsatisfactory to me, but in every instance it was because of some organic difficulty still remaining which interfered with the return of vitality and proper function, such as degeneration or fixed ailment of uterus or appendages caused either by their ablation or because of the disobedience of the patients themselves.

G. F. SHEARS, M.D, Chicago, Ill.: I have met with eleven cases of incontinence, the result of the American operation. I do not think they were all due to a lack of skill on the part of the operator, for in each instance the operation had been made by a recognized orificialist. I consider it a very serious operation, and one that is unwarrantable in the ordinary treatment of hæmorrhoids or in reflex disturbances. There are cases of hæmorrhoids complicated with prolapse of the rectum in which this operation or some other, such as the Whitehead operation, is demanded. It is in such cases only that I make the operation of circular amputation. In regard to the cause of the incontinence, whilst it may be due in some cases to the rupture of the sphincter, another cause I believe is operative in many instances. In the mucous membrane of the rectum near the sphincter are terminal nerve bulbs whose duty it is to notify the patient of the presence of fæces in the rectum and the necessity for evacuation. The removal of the lower inch takes away the sentinels that guard the exit, and the patient, unaware of the presence of fæces, allows them to escape with flatus. The operation is only warrantable when local conditions exist which make the possibility of incontinence less to be feared than the existing trouble.

The Surgery of the Thyroid.

By G. F. Shears, M.D., Chicago, Ill.

It is not my intention in this paper to consider the subject of "The Surgery of the Thyroid" in a systematic and critical manner, but rather to present several cases which have recently come under my care, with some remarks concerning their treatment, believing that the comparative infrequency (at least in this country) of operations upon the thyroid may make even these of some interest.

1. Abscess of the thyroid:

Mrs. B.; aged 26 years; had had an enlargement of the thyroid for several years. After trying many forms of medication her physician had injected ergotin. Following one of these injections the gland had become very much inflamed. When she entered my clinic the right side was as large as an apple, distinctly circumscribed and apparently much inflamed. She breathed with great difficulty, was troubled with a tickling cough and spoke with some effort. She had had repeated chills, followed by night sweats and presented evidence of pronounced systemic infection. The temperature was 103 and pulse 140.

Operation: An incision was carefully made over the most prominent portion of the tumor, down to the capsule. The inflammation which had welded together the tissue had also compressed the large veins, so that hæmorrhage was not pronounced until the capsule was incised. Upon incision of the capsule an ounce or more of pus discharged. The oozing from the capsule and abscess wall was profuse but was controlled by an iodoform gauze packing. No attempt was made to close the wound in the capsule, but it was kept open and gradually healed by granulation.

I have reported this case because I believe abscess of the thyroid to be a rare occurrence. In a comparatively large hospital practice extending over a period of fifteen years, this is the first one that has come under my observation. Unlike the lymphatic glands, the thyroid is rarely the seat of abscess. Surrounded by a dense capsule, without excretory ducts, and with no direct communication with the external surface of the body, it is little liable to infection unless

introduced by way of the blood current, and from this it is protected by the lungs and liver. For this reason, except in the rare instances in which it has followed pneumonia, influenza, typhoid fever, puerperal infection or rheumatism, it has been the result of infection from without, namely, the injection of various substances used to reduce goitre. It may seem puerile to speak of complications following the opening of an abscess, but an abscess of the thyroid, on account of the extreme vascularity of the gland, presents certain dangers not found in other localities. Among these may be mentioned excessive hæmorrhage and permanent fistula. The first is less liable to occur when the abscess is large, when it is quite superficial, and when there is but little thyroid tissue to be divided. The hæmorrhage is more pronounced after the evacuation of the abscess, because of the relaxation of the pressure. Firm tamponment in my own case was sufficient, but at least one case has been reported in which death resulted, and another in which no other means than extirpation of one-half the gland sufficed. Fistula after incision is most difficult to cure and may necessitate extirpation.

Cystic Tumor: Enucleation.

2. Mrs. W.; aged 24 years; married two years; one child. Came to me because of a permanent enlargement on the right side of the neck, evidently a growth in the thyroid gland. The tumor first made its appearance about puberty, but had grown so gradually as to excite but little alarm. After the birth of her child it began to grow rapidly until it attained the size of a large apple. It was hard, tense and gave no evidence of fluctuation. It seemed wholly confined to the right lobe. It had been unattended by pain or distress until the last six months. For about that time she had found it difficult to breathe unless the head was thrown slightly back, and any attempt to swallow suddenly met with resistance. Her health had been very good, but after the difficulty of breathing appeared she became nervous, thin and anæmic. She had had the tumor painted with iodine and had taken thyroid extract for some months.

Operation: An incision was made along the sterno-mastoid extending from the angle of the jaw to the clavicle. The sterno-hyoid and sterno-thyroid were found spread like thin ribbons over the inner side of the tumor. They were peeled off and held aside by retractors. The surface of the tumor was now found to be covered by a plexus of large veins, some of them the size of goose-quills. These were divided between two ligatures, some ten ligatures being necessary.

The anterior surface being clear, the capsule was incised over the surface of the tumor, but contrary to my expectation the capsule of the tumor did not make its appearance. The incision was continued for a quarter of an inch through the red substance of the gland, when the capsule of a cystic tumor was exposed. Upon enlarging the incision the tumor was readily enucleated. This method has been described as comparatively bloodless, but I did not find it so. From the moment of the incision of the capsule the hæmorrhage was profuse, and after the enucleation the whole surface from which the tumor was enucleated poured forth blood. Thirty-six ligatures were applied aside from the stitching the edges of the divided gland. The fragile texture of the gland led me to use fine silk instead of catgut. Fearing that the thickened capsule would not collapse, a drainage tube was introduced, and although oozing continued for several days, the wound healed without suppuration.

3. Mrs. L.; aged 29 years; married. First noticed an enlargement on the right side of the neck when about thirteen years of age. When her menses first appeared the tumor became larger and seemed to increase in size with each monthly flow. Was married when twenty-two years of age. Has had two children, and at each pregnancy the growth noticeably increased, and more markedly with the last one. She seemed well nourished and had good health, but was short of breath in walking or talking. The tumor was about the size of an orange and somewhat irregular in outline.

Operation: The gland was uncovered by an incision from the angle of the jaw to the sternum, along the line of the sterno-mastoid muscle, all veins being severed between double ligatures. On examination, besides two of the larger growths, several small nodules could be felt in the affected lobe. Fearing that enucleation might be accompanied by excessive hæmorrhage, a partial thyroidectomy was decided upon, and an additional incision was made, almost at right angles to the first, over the isthmus of the gland. The sterno-hyoid, sterno-thyroid and the omo-hyoid were divided. The gland having been thoroughly exposed, the superior thyroid and its accompanying veins were isolated at the upper angle of the wound, securely tied and divided. The capsule was then split and gradually peeled off the gland with the elevator until the gland could be easily turned out from its bed. This gave approach to the inferior thyroid artery, which, together with several large veins, was thoroughly exposed and tied a short distance from the tumor. On lifting the lobe a number of smaller vessels entering from behind were caught

and tied. The isthmus was then gently raised from the trachea, transfixed and secured by a double set of ligatures. The tumor contained several adenoid cysts. The patient made a good recovery in three weeks. These two cases present two of the several different methods of treating tumors and enlargements of the thyroid. In the first case the method of enucleation employed was first practiced by Socin and applied by him to the treatment not only of cystic tumors but all goitres in which nodes or encapsuled tumors are found. Inasmuch as this class is by far the most frequent of all, it is quite evident that this method of treatment has a wider usefulness than has been generally acknowledged. Many a case of thyroidectomy might have been one of enucleation if the true cause of the enlargement of the gland had been recognized. Thus in a report of four cases of thyroidectomy made by Chavásse, examination after removal showed one to be a cystic adenoma encapsulated, another adeno-cystic, another adenomatous, "distinctly encapsulated," and the fourth adenomatous, whether encapsulated is not stated. Three at least of these might have been removed by the method described. This method has the advantage (1) of interfering less with a gland the exact value of which is still a question; (2) of making a smaller wound, thus disturbing less the deep connective tissue spaces of the neck, and therefore offering less opportunity for septic infection; (3) of absolute immunity from injury to the recurrent laryngeal nerve, whose intimate relationship with the inferior thyroid artery renders the securing of that vessel without injury to the nerve one of the most difficult features of the operation for thyroidectomy; (4) of being able to change to extirpation, but not *vice versa*, and (5) of little danger from secondary hæmorrhage.

Its disadvantages are: (1) it is not applicable to non-encapsulated tumors, and (2) it is often accompanied by more serious hæmorrhage than extirpation. In order to overcome this latter difficulty, Böse practices temporary elastic de-ligation of the goitre. After laying bare the gland, and freeing it on all sides, he pulls it out of the wound as far as possible, and applies around it, where it passes through the incision in the skin, an elastic ligature, somewhat as one applies the same around the uterus previous to an abdominal hysterectomy. The tumor may then be enucleated without hæmorrhage. After removal of the tumor, hæmorrhage may be controlled in the usual manner.

In the second case, the fear that the removal of multiple tumors by enucleation might be accompanied by excessive hæmorrhage, or

that there might be a failure to remove all diseased tissue, led to the making of a partial excision. The operation described is that of extirpation, as practiced by Kocher, the external incision being modified somewhat, because the first intention of the operator was to make an enucleation. It has been termed the extra-capsular method because the veins and the superior thyroid artery are tied before splitting the capsule.

Billroth, who practices what is known as the intra-capsular method, splits the capsule first, enucleates the lobe from its bed, tying all vessels running from the capsule as they are severed, and eventually isolating and ligating the inferior thyroid. Other modifications are made by individual operators. Rose divides the isthmus first; Maas operates from below upwards, placing the patient in a half-sitting posture, and using a combination of morphine and chloroform anæsthesia, avoiding ether on account of its causing laryngeal irritation.

The great danger in all these operations is the possible inclusion of the recurrent laryngeal nerve in the ligation of the inferior thyroid artery. To render the avoidance of this more certain, Baumgartner proposes to not ligate the inferior thyroid until after the tumor has been removed, but to catch the artery with the forceps. After the removal, a better opportunity for more accurate isolation can be obtained.

It seems probable, however, that the nerve could be almost as effectually injured by the pressure of the forceps as by cutting with the knife or inclusion in the ligature.

Mikulicz, fearing the same danger of injury to the recurrent nerve, practices what is known as the resection method. Having freed the affected lobe, tied the superior thyroid, ligated and divided the isthmus, the lower border is treated as though it were the pedicle of a tumor. It is divided into several strands, each of which is ligated, and the lobe is cut away. The inferior thyroid vessels are thus untouched, and danger to the recurrent nerve avoided. Still other modifications have been made by Nussbaum, Hahn, Woelfler and others, but in most instances the operations practiced in the treatment of these two can be relied upon as sufficient. If the entire gland be involved, and it is thought best to make a complete excision, the initial incision may be made in the median line, extending from the sternal notch to the upper border of the thyroid. From this point a lateral incision is made to the angle of the jaw, the whole incision having the form of a letter "Y." Each half may be thus removed in the manner described in Case III.

Whatever operation is selected, the excision of the thyroid, if I may judge from my experience and the experience related by others, is a tedious and difficult operation. The arteries are large and the veins are numerous; indeed, it is the latter that give the most trouble. They are found everywhere, without any definite anatomical arrangement, and the walls are thin and easily injured. The gland itself is soft and pulpy, and, when cut, exudes blood as though it were a sponge. Fortunately more blood may be lost from the head or neck without shock to the patient, and with prospect of a good recovery, than from any other part of the body.

Considerable controversy has arisen over the question of the possible complications following thyroidectomy. Reverdin, in 1882, reported a case of complete extirpation followed by myxœdema, and other operators have since had similar results. Kocher's investigations showed that in fully 70 per cent. of his cases of complete extirpation, this loathsome disease made its appearance in a greater or less degree. Trombetta found only 27 per cent. of cases followed by myxœdema. The London Clinical Society found 35 per cent. It has been suggested that this great difference in statistics may be explained on the ground that inasmuch as climatic influences are potent in the production of primary myxœdema, the same influences may be operative in varying the tendency toward myxœdema after operation. Kocher's patients were mostly from Switzerland, where this disease has its natural habitat.

Some surgeons, among whom may be mentioned Baumgartner, believe that the removal of the gland has nothing to do with myxœdema except as it permits of injury to the sympathetic or recurrent laryngeal nerve.

To this is opposed the fact that in partial excision myxœdema results in only about 1 per cent. of cases, while the probability of nerve injury is almost as great as in complete excision. In those cases in which the disease does not make its appearance, it is quite possible that some portion of the gland has not been removed, or that accessory glands exist. A number of cases have been reported in which this latter condition has been found. An interesting case of this kind came to my clinic in February last. The patient, a man 38 years of age, was being operated upon for the removal of a submaxillary growth of somewhat doubtful character. This being dissected out, there came into view another enlargement entirely different in appearance. It was deeply seated under the body of the jaw, near the median line; was red, lobulated, encapsuled and

compressible. For fear that it might have some connection with the submaxillary tumor, and it being evidently an intruder in this locality, it was removed. Upon microscopical examination, it proved to be normal thyroid tissue.

Discussion.

W. S. Briggs, M.D., St. Paul, Minn.: I don't know what I can add to this paper. What he has said as to controlling hæmorrhages in the first case seems to me to be rather unique. My experience in two cases has not been satisfactory.

J. L. Hanchett, M.D., Sioux City, Iowa: In regard to hæmorrhage, we had a case last year in which we had no hæmorrhage more than is common to any operation where dissection is extensive, until we get to the very last, when inadvertently the main arterial supply vessel was torn asunder. The stump was so short that it was almost impossible to catch it and make it secure. However, without the loss of the patient's life, we at last succeeded. The tumor was cystic, and had a peculiar calcareous or bony framework, very much resembling the bones of the neck of a codfish.

J. C. Daily, M.D., Fort Smith, Ark.: I understand the discussion is upon the removal of the thyroid. I have treated three cases of thyroid with electricity. The third case was very large, and received a treatment of about six months continuously, using iodide of potash only twice; I had a reduction nearly one-half, enough to give the woman a great deal of ease; it was getting too large; it was pressing in on the blood-vessels. I reduced it fully 50 per cent. in size. The other two I did nothing for at all.

J. M. Lee, M.D., Rochester, N. Y.: I was so unfortunate as not to hear any but the last third of the paper. My experience in this work has been confined to four cases: Three of them were cystic (two of which were multiple) and one calcareous, as just described. In three of the cases the over-lying tissues were incised, and the growth enucleated by the use of tissue forceps alone. The other was exceedingly vascular, and many vessels were tied. When a pedicle was at length secured, it was also tied with a large catgut ligature.

C. E. Fisher, M.D., Chicago, Ill.: I have had three cases of cystic disease of the thyroid. In one the degeneration was purely calcareous. In the other two it was typically a secretion of pus. One case was a Jewish boy, seventeen years of age. He had been operated upon about a year previously, when a partial excision of the gland had been made. This case was attended by protracted suppuration extending over several months before it was brought to me. I succeeded in overcoming the suppuration and drain

upon the system by thorough excision and curettage, and packing, of course. This boy developed very rapidly what had previously been looked upon as a typical case of myxœdema. He was afterwards taken to New York and treated by Dr. Gerster; with what results I do not know.

I have had recently a case of a Chicago boy, who spent last summer at Spring Lake. It is presumed that in bathing he hurt himself, and a very large thyroid abscess developed. A visiting surgeon who saw him thought it was a case of rapid development of thyroid cyst, and sent him home. But free incision was made, a very large quantity of pus removed, and healing has taken place nicely. It is now nearly a year since I did this work upon this boy, and for three or four months I was very much afraid he was going to develop symptoms of myxœdema. But I have so far found no evidence of it. The sexual organs are developing rapidly; he is at school, hearty and vigorous, quite well, and the indications are that he is going to get along quite nicely. The gland seems entirely destroyed, so far as I can tell. Whether it was the action of the Homœopathic remedies, or whether he might have it later, I do not know.

I have never undertaken to remove the thyroid for cystic adenoma. I undertook it once and I was backed out with the hæmorrhage. It did not take me long to decide to let the case pass over to medical treatment.

I am very glad to hear the report from Dr. Shears, and I am very glad he gave us the percentages he did in regard to the development of myxœdema.

Dr. Shears: I have but a few words to say. I am convinced of one thing, after hearing this discussion, and that is the advisability of our Homœopathic surgeons reporting their cases. Before writing my article I looked somewhat carefully through Homœopathic literature, and I found no case of abscess of the thyroid reported. I did not look as carefully through general literature as I might, but I looked through the reports of the American Surgical Association, and found only one article on abscess of the thyroid, and in that this gentleman claimed to have examined carefully the medical literature on the subject, and he found only a few cases of thyroid abscess reported. Our own physicians, if we may credit to-night's discussion, have had quite a number of cases, and yet had not considered them rare enough to report. I had not had a case before in my fourteen years' service, and had considered it a rare disease. Of course, abscess of this gland must not be confounded with abscess of tubercular cervical glands. In reply to Dr. Briggs, I would say that in the first case there was so much hæmorrhage that I adopted the following expedient: I packed iodoform gauze into the cavity made in the gland, and, after getting in as much as I could, brought the edges of the gland over the gauze and sutured them, thus getting the pressure upon the gland in all parts of the

cavity. You cannot get a great deal of pressure upon the neck to stop hæmorrhage without causing asphyxia, and as this gland lies directly upon the carotid arteries, an added difficulty results. In regard to the abscess of the gland, I may say one would hardly expect myxœdema to follow abscess of the gland, inasmuch as only a portion of the gland-tissue is destroyed, and there is usually enough of the gland-tissue left to carry on the work of the system.

Acquired Talipes Valgus, or Flat-Foot.

By George W. Roberts, M.D., New York, N. Y.

Painful affections of the feet are so common and misconception of their pathology, diagnosis and treatment so prevalent, that the writer begs to present this subject to the Institute for discussion. We have few new ideas to advance, but have culled freely from the works of various men whose study of the subject has been so complete as to leave little to be desired. Not all cases of painful feet are to be classed as due to talipes valgus, but one is safe in saying that 95 per cent. of painful feet are flat-feet, and from this, which we are led to believe is a conservative statement, one may see the importance of the subject.

Acquired talipes valgus has been variously characterized by different authors. Walsham in his most valuable work, entitled *The Deformities of the Human Foot*, gives no less than fifteen names applying to this condition, and other authors add to the list. The most common terms in use in this country are flat-foot, splay-foot, weak ankle, weak foot and static valgus. It is hard to decide which term has the best claim for common use, but to scientific men it would seem that talipes valgus, from the fact that the valgus is more important than the fallen arch, is most appropriate.

Ever since orthopædic surgery began that rapid growth which has in a comparatively short time placed it high among the recognized specialities, flat-foot has received perhaps more than its share of attention, and our present knowledge of the condition may well be said to be based upon the experience of the profession at large. At the same time the conditions were only imperfectly understood, and the treatment largely palliative until Whitman, of New York, began his work, which within a few years has completely revolutionized our ideas upon this subject.

The text-book anatomy of the foot is so well understood that we hardly need dwell upon it; however, a few general points are worthy of consideration. It has been the custom to describe the foot as being made up of two arches, one antero-posterior and the other transverse. This we consider a somewhat complicated way of look-

ing at a simple mechanism, and if the reader will think of the foot as a semi-dome, the highest point being represented by the highest point of the instep and the base being defined by the tubercles of the os calcis, the outer border of the foot and the heads of the five metatarsal bones, we believe that it will give him a much better understanding of both the foot and the gait. This dome derives its support from two principal factors which differ widely in character. The first factor is made up of the muscles having their origin in the leg and insertion in some portion of the arch and the short muscles occupying the sole of the foot. This factor in support of the dome is distinctly active, voluntary, muscular, the absolute subject of the will and prone to tire and become exhausted the same as all muscles of the body. The second factor referred to is mechanical, passive, ligamentous, and is made up entirely of those ligaments which subtend the dome and bind together the various bones of the foot. These two factors are capable, when properly used, of sustaining almost indefinitely the weight of the human body and of carrying that weight about in a manner both easy and graceful. If, however, either factor is eliminated, the foot and gait suffer severely, as we shall see in our further consideration of this subject.

There has been much dispute as to the proper method of walking, some holding that the normal step is that which is laid down in military tactics, namely, the toe meeting the ground first and the weight coming gradually upon the foot through its long anterior lever. Athletes have demonstrated beyond a shadow of doubt that this action is the most practical method of taking a step both in running and walking. It, however, must not be lost sight of that, considering the ankle as a fulcrum, the foot forms a short posterior as well as long anterior lever, and if we reverse the step as most of us do, by bringing the heel to the ground first, we do not lose all of the elasticity of this wise mechanism, but only curtail it to a certain extent. Careful observation of the method in which power is conveyed to the foot by the muscles most concerned in walking, has shown that this occurs along the line of the tendon of the *extensor proprius hallucis* or Meyer's line, and with the toes turned straight to the front, this line will be found to point anteriorly, not parallel to the direction which the body is taking, but directly to the spot where the opposite foot is bound to fall at the next step. That this is the direction which the line of propulsion *must* take is evident to every one after a little thought, and especially so if one observes a person going along the street with a normal gait. It will be seen in

this case that the body does not move forward as a whole and in a direct line, but that it moves forward by means of a succession of slight lurches from side to side, modified by the flexibility of the spine. If now the toes are turned outwards, as we teach our children to walk, Meyer's line will be found to point neither in the direction of the opposite foot-fall nor in that which the body is taking in its progress, and at the same time the gait will be seen to have lost largely in its elasticity and grace.

Further than this it cannot be questioned but that the *strongest* position of the foot is with the toes turned directly to the front, for the reason that if the foot is either abducted or adducted the points of attachment and insertion of some of the muscles most concerned in walking are unduly approximated, and therefore they are unable to exert their maximum power upon either the foot or leg. Especially is this true of abduction, for in that position all the muscles except the *flexors* and the *tibialis posticus* are relaxed, and therefore the support of the plantar dome falls almost entirely upon the short muscles of the sole and the ligaments. Observing a normal limb in this strong position, namely, with its toes straight to the front, it will be seen that a line drawn from the centre of the knee-joint straight downward to the centre of the ankle and forward to the space between the second and third toes, will lie in a single antero-posterior plane. In this position all the muscles and ligaments of the foot and leg are acting at their best, and by their power will balance the weight upon the foot, their activity reaching its highest only at the moment when the final impulse for the next step is given. This highest activity is followed by absolute rest until the succeeding step by the same foot, and thus is accomplished an alternation of physiological action and rest, the parallel of which is so familiar to us in the acts of respiration and cardiac contraction. In this position the weight of the body falls, as most of us walk, first upon the heel; as the step progresses it is transferred forward along the outer border of the foot, then inward through the heads of the metatarsal bones, the final impulse being given by the first metatarsal bone acting as a fixed point for the *flexor longus hallucis*.

Overtire and habitual abnormal position from one cause or another are the two great factors to the production of valgus or flat-foot, and the method in which this comes about is comparatively simple. It makes no difference whether a person demands of their muscles the support of a certain weight during more hours of the day than those muscles are capable of acting without overtire, or

whether they demand the support of a larger amount of weight than the muscles are capable of supporting, or whether, on the other hand, they demand the support of what may be considered a normal weight for a normal duration of time, but with the parts placed in such a position that the muscles are obliged to act at a mechanical disadvantage, the result of all these demands is the same, over-muscular taxation, fatigue, and the ultimate assumption of some position which will relieve the person from the necessity of muscular support. This result is inevitable, and although it may not reach its climax upon the first day, ultimately the patient is bound to shift the weight of the body from the first or muscular factor supporting the arch, to the second or ligamentous factor, the action of which we all know is passive, incapable of tire, but very prone to relaxation and stretching.

As a clinical demonstration that the above hypothesis is true, we desire to call attention to the fact, that flat-foot or acquired talipes valgus is never found except in patients who have either overtaxed strong muscles in some of the ways described, or whose muscles have become either suddenly or gradually weakened from other causes. These facts are not obscure, they are perfectly easy to demonstrate in the history of every case of flat-foot, be it acute or chronic.

In the consideration of talipes valgus, it must be remembered that there exist in the foot three especially important joints: the ankle-joint, capable of flexion and extension only, the subastragaloid joint, capable of abduction and adduction, eversion and inversion, and the medio-tarsal or Chopart's joint, bounded posteriorly by the astragalus and os calcis, and anteriorly by the scaphoid and cuboid bones, and capable of both flexion, extension, abduction, adduction, and circumduction.

Bearing in mind these facts, the pathology of flat-foot becomes very simple. The moment overtire of the muscles takes place the patient assumes, as we have noted above, some position which throws the weight from the muscles on to the ligaments, and that position, nine times out of ten, is what is known as "the attitude of rest;" namely, with the feet spread apart and the toes turned outward, the astragalus and os calcis tend to rotate inward, the anterior portion of the foot is forced outward, the ligaments of the sole and the internal border of the foot are overstretched, pressure on the internal side of the joint is lessened, perhaps abolished, while a double pressure is brought to bear upon the outer segment

of the joint. The result of both this pressure and overstretching is first, pain; second, chronic inflammation, with its resultant tenderness and the production of new tissue in the form of adhesions between the joint surfaces. As the tenderness of this chronic inflammation develops, the muscles of the foot and leg, in their wild and ill-directed attempts to protect the joint, become spasmodically contracted, and upon examination these feet will be found rigidly held in abduction. As the condition progresses still further, a portion of this fixation is found to be due to the adhesions and new tissue formation. Examination will now show, first, that a line drawn through the centre of that portion of the foot which lies posterior to Chopart's joint, and a similar line drawn through the anterior segment of the foot in a similar manner, will not be parallel as they should normally be, but that the anterior line will form with the posterior an obtuse angle outward. In other words, the anterior segment of the foot is markedly abducted, and one or more of the five following points are tender to pressure: First, the point on the anterior border of the foot corresponding to the head of the astragalus; second, the point just above the outer border of the foot below and anterior to the external malleolus, corresponding to the outer portion of the medio-tarsal joint; third, the point on the dorsum of the foot corresponding to the medio-tarsal joint; fourth, the point underneath the head of the first or second metatarsal bones; and fifth, the point underneath the centre of the heel.

The subjective symptoms observed in these cases are summed up in the word "pain," and the peculiarities of this pain seem almost to have been calculated to lead one to a diagnosis of rheumatism of the foot or ankle, than which no greater mistake could be made. This pain is usually located somewhere in the region of the medio-tarsal joint, but oft-times that joint will appear to be free from pain, while there will be a tender and painful spot in some remote portion of the foot. In aggravated cases the pain extends to the leg, sometimes as far as the hip, and simulates very closely sciatica. This pain is almost invariably worse upon first moving about in the morning, relieved up to a certain point by motion, but recurring again in the latter part of the day when the patient becomes tired. A beautiful picture of Rhus tox. Wet weather always aggravates the condition, and flat feet considered as barometers take second place to rheumatism only. Several of the subjective symptoms of flat-foot bear no relation whatever to the amount of deformity present, and strangely enough some cases in which there is no ap-

parent deformity are attended by more pain and discomfort than others of long standing, which are characterized by pronounced abduction, ankylosis, and destruction of the arch.

The older writers described many forms of flat-foot, but for the purpose of treatment all cases of flat-foot may be divided into two classes: First, those cases in which there is pain, tenderness, perhaps some deformity and a good deal of disability, but which upon examination show little or no restriction of the normal motions of the joints. These cases may be considered comparatively mild, and are usually in an earlier stage of developmeut than the second class, which is made up of cases in which the normal range of motion of the smaller joints of the foot has become limited or abolished by spasm of muscle and the development of inflammatory adhesions. Practically it makes little difference what is the cause of any particular case of flat-foot, except that by knowing the cause we may remove it. The general treatment is the same for all cases which fall within the first division given above, and the same for all cases which fall within the second division. Considering the more severe class of cases first, if a cure is to be obtained, we must first render the foot capable of being placed *passively* in its normal position, and then so overcome all muscular spasm and tenderness that *voluntary* adduction is resumed. This is accomplished in the following manner: First, the patient must be prepared to leave his occupation for a period varying from three to eight weeks. Deep narcosis having been induced, the foot is grasped firmly by the surgeon and *forced* through the normal arcs of motion, beginning first with flexion and extension. Dorsal flexion should be carried to a point well beyond the right angle and plantar flexion to about 130°. It will be found under full narcosis that a large portion of the fixation at first apparent was due to muscular spasm, but there is usually a residue which owes its existence to inflammatory products in and about the joints. As this passive motion is carried out these bands and adhesions can be distinctly heard to snap, and at the same time may be felt by the operator to give way. Abduction will usually be found unrestricted to any great extent, but the most important motion of all, adduction, is almost invariably limited. This fixation must be overcome, and best so in the following manner: The operator taking the heel in one hand in such a way that the palm lies upon its inner surface, while the fingers clasp the tuberosity of the os calcis, thus holding the posterior segment of the foot firmly; with the other hand he seizes the anterior segment

of the foot, the fingers being upon the dorsal surface and the thumb upon the plantar. Now, as the operator takes both his hands and the patient's foot between his knees, he is able to exert the force not only of his hands, but the powerful adductor muscles of the thigh in such a manner that the anterior segment of the foot is forced into the position of strong adduction. In other words, the foot is forced into the position of talipes equino-varus, and this is almost invariably accompanied by audible snapping of the inflammatory adhesions in and about Chopart's joint. These motions are repeated time and again until the foot describes easily the normal range of motion, and one may be assured that some cases will tax his strength to the utmost, and not infrequently do they necessitate placing a sandbag under the centre of the inner border of the foot and forcing the adduction with one hand upon the heel, the other upon the toes at their external surface, in which position the surgeon can bring to bear his whole weight. It might seem that the application of such force would be injurious, but there is no record of its ever having been so, although not infrequently are these cases attended by ecchymosis and considerable tenderness for some days.

Entire freedom of motion, especially adduction to such a degree that the foot easily assumes a position of marked talipes equino-varus being obtained, it is to be fastened in this extreme position by means of a plaster-of-Paris bandage extending from the toes to the middle of the calf. After two or three days the patient may be up and walking about, but the plaster-of-Paris bandage is allowed to remain on for eight or ten days, until the soreness produced by the forcible manipulation has subsided. It is then cut down the centre of its anterior surface and taken off, and a cast of the foot taken in the following manner: The foot is carefully shaved and thoroughly vaselined, and about a quart of thick plaster-of-Paris cream is prepared, using for that purpose the finest quality of Philadelphia plaster, manufactured by the S. S. White Dental Company; and it is essential that the plaster be fresh and dry. A large piece of unbleached muslin is placed underneath the foot as it lies upon its side, and so gathered up at the edges that it forms a sort of basin. Into this cloth, at the moment the plaster-of-Paris cream has been brought to the proper consistency, about as thick as it will flow, the plaster is poured, and while an assistant holds up the edges of the cloth so that the cream does not run out, the surgeon applies by means of his hands such pressure to the outside of the cloth that the plaster cream envelopes the foot to about

one-half its extent, the foot being held in its most favorable position. As the cloth is steadied in this position for a few moments, the plaster sets and we have a semi-mould of the foot. The top of this mould is now smeared with vaseline, and another batch of plaster prepared the same as the first. While the edges of the cloth are once more held, the plaster is poured over the other half of the foot in such a way that the whole foot is encased in plaster-of-Paris. As soon as this has set, the cloth is pulled off and a line of easy cleavage will have been formed by the vaseline coating. The mould being separated in this plane by slight pressure, the foot is removed, the impression which it made is thoroughly vaselined, the two halves placed again in apposition and the whole filled with thick plaster-of-Paris cream. After this has hardened, the mould is again separated, the foot removed, and if proper skill has been acquired in the manipulation, we have a perfect cast of the foot, which in nice specimens is so true to life that every scar, corn or other blemish is accurately pictured. This process is somewhat hastened and simplified by the use of a basin, the shape of which somewhat resembles the foot, but this is not absolutely necessary. This cast having been made, the foot and leg are soaked for a half hour in hot water, in order to relax as much as possible the muscles, and without an anæsthetic the manipulations described above are repeated, carrying the anterior portion of the foot through all its normal motions to their fullest extent. This first manipulation is attended with some pain, but it is repeated daily, after which the foot is replaced in its plaster-of-Paris bandage in the talipes equino-varus position. Each day the pain upon manipulation becomes less, and usually in the course of a week or ten days' manipulation has become absolutely painless.

In the meantime the surgeon has taken the original cast and drawn upon it the outlines for a plate 18- or 20-gauge steel, the shape of which is difficult to describe, but is readily understood from the drawings upon the accompanying casts and the samples exhibited. If it chances that in taking the cast, the foot has not assumed a position in which its arch is completely restored, it is easy with a penknife to whittle away a portion of the sole and inner border of the cast, thus giving it a shape approximating the normal of that foot. The plate being fitted accurately to this cast, will require only slight alteration in order to make it perfectly comfortable to wear inside any sensible sort of a shoe. It is best fitted by the surgeon himself before tempering, when he may hammer it into

proper shape by means of a round-faced hammer on a piece of soft metal used as an anvil. The plate is then tempered and galvanized, after which it is ready to be worn.

By the time this has been accomplished eight or ten days have usually been consumed, the soreness and spasm have disappeared from the foot, and the patient is ready for instruction in the proper method of walking, and has even previously begun systematic gymnastic exercise calculated to strengthen the muscles of the foot and leg. This exercise is very simple and is usually prescribed as follows: The patient is told to begin his morning toilet by standing erect when he first gets out of bed, with his heels close together and toes pointing straight to the front, then raising the weight of the body upon the toes to the highest possible point five to ten times in succession, at first. Next morning he raises the body once more upon the toes than the first morning, and so on until he is able to raise himself seventy-five or a hundred times. He should not, however, hold the body in this position, but immediately drop back upon the heels. He is then taught that he must walk and stand with the toes straight to the front, the foot then being in the strongest mechanical position, and that he must never assume the "attitude of rest" with the toes turned out and the feet separated.

Now, the first class of cases, those in which there is no marked spasm of muscle or limitation of motion, may be cured much more quickly without an hour's confinement in bed, and without pain, for they are in the same condition in the beginning of treatment in which the severer cases are after the ankylosis has been broken up by forcible means. In other words, a cast may be taken of them at their first visit to the office. They may be taught the exercise and the proper method of walking, and a plate fitted as soon as possible. This method of treatment is materially assisted by insisting upon the use of a proper shoe, the main quality of which should be, it is believed, a straight inner border, so that the inner border of the heel, medio-tarsal joint, first metatarso-phalangeal joint and the inner surface of the great toes lie in one straight line, and the heel should be low. It is not necessary that the shoe should have a broad toe, but if it have a pointed one, the point should lie far internal to the central line of the shoe, since as each successive toe is somewhat shorter than its fellow, this sort of a shoe resembles more closely the shape of the normal foot than does either the shoe with the central point or that with the broad toe. If shoes of the above description were insisted upon by parents, we believe that the next

generation would exhibit a material decrease in both hallux valgus and flat-foot. The position of the foot may be further strengthened in some cases by elevating to the extent of a quarter of an inch the external border of the sole and heel.

It may seem that such a long argument in favor of a particular method of treatment of this condition, which is hardly noticed in our various text-books, is somewhat unnecessary; but in this connection we beg to submit that cases of flat-foot are to be found by the thousands in every large city, that they are considerable throughout the rural districts, that if you will think the matter over you will recall having seen many of them; furthermore, that nine-tenths of them are never recognized, but are diagnosed as rheumatism, weak ankle, etc., and also that ninety-nine one-hundreths of them are curable, and that the relief which they experience can hardly be described except by one who has been a sufferer from this obscure and painful affection. Whitman reports a tabulated list of one thousand cases; I have, within the past five years, seen considerably over one hundred cases, and they are familiar to every orthopædist and general surgeon.

Discussion.

Dr. Roberts (illustrating by casts): The method of taking hold the foot is this: the left foot is held in the left hand, which firmly grasps the heel, the strongest part of the palm pressing against the prominent point, situated just back of Chopart's joint. The anterior segment is taken in the other hand, the fingers on top and thumb on the sole; by taking the foot between one's knees, one can bring to bear not only the force of his hands but of the thigh muscles, which are almost always necessary in breaking up the adhesions. It is wonderful the amount of force that can be used without doing damage.

G. F. Shears, M.D., Chicago, Ill.: I desire to say a word on this paper. I have been very much interested in his report. I have had some little experience with cases of flat-foot, not so much in the line of severe cases as in the line of less severe ones, such as are frequently found among the better class of people. My attention was first drawn to the subject by a case of supposed rheumatism, so considered and so treated by many physicians. The patient was in such condition that he could not remain upon his feet except for a few hours during the day. In examining the case and in noting the depression of the arch, I tried this little experiment, that in a diagnostic way helped me very materially: I had the patient take off his shoes and stand over the door-sill. The relief it gave him satisfied me that there was no considerable

amount of rheumatism, but that it was the relaxation of the arch that placed the strain upon the parts. In that case I adopted this simple expedient: I went to the shoemaker and had a plate made something like the one here represented, but differing from it in this respect—there was no curving up on the side, and the plate was elastic. This plate has no elasticity to it, and it comes up on the inner surface of the foot in such a way that the pressure is brought directly to bear upon the joint articulation. In these cases I have nearly always found that there is relaxation of the ligaments of the ankle-joint, which needs a brace to aid in maintaining the foot in proper position. So I have added a light brace, which prevents the ankle-joint from turning in. Many of the lighter cases do not need the severe measures described by Dr. Roberts, as they willingly carry out directions and are readily benefited. In all cases I have insisted on having a low heel, believing that a high heel throws the patient so far forward upon the little tripod that the balance is disturbed. With a low heel, a broad sole, a steel brace to the instep and a slight brace to the ankle-joint most of these cases are cured. Add the gymnastics afterward. This is a very interesting device, however, for the treatment of more severe cases, and Dr. Roberts deserves much credit for his clear exposition of the treatment of this obstinate difficulty.

J. M. LEE, M.D., Rochester, N. Y.: I am greatly pleased with Dr. Roberts's paper. It is scholarly and classical, and there is very little to criticize. The only thing I would add is in regard to the breaking up of adhesions. For this purpose Thomas's wrench is valuable, and in some cases the attachment of a bar to the sole plate, with a band about the leg, is of great service.

DR. ROBERTS: These plates should be known as Whitman's plates. The first speaker referred to these cases as relaxation of the arch; they are all accompanied by relaxation of the arch, but I consider it secondary to the turning out of the anterior portion of the foot, which is the cause of the relaxation. A great point about these plates is that they are so shaped that they require nothing to hold them. It is absolutely impossible to change the position of the plate.

The criticism of the stiffness of the plates is hardly valid; they do not cause pain, and what we want is a firm support to the arch. If you put a spring into the shoe it allows the arch to fall to a certain extent. I believe there is no plate with the spring principle which is anything like as good as these. They are not hard to wear, and can be applied as well to the mild cases as the more severe ones. With these cases a "brace" is not necessary or beneficial.

Floating Kidney.

By W. S. Briggs, M.D., St. Paul, Minn.

I take this subject, first, because it is one of especial interest to me, as I had a case that had baffled a number of diagnosticians through both the west and east as to what was the cause of the symptoms produced; second, because, so far as I have been able to search, there is very little written on the subject. Most of the authors, both domestic and foreign, confound it with movable kidney. The American Bureau of Medical Literature says: "All the standard text books, both domestic and foreign, use the terms floating and movable kidney indiscriminately." They also state: "I do not remember any instance in which such mobility was congenital," which evidently shows there is very little written upon the subject.

Helmuth's *System of Surgery*, the new *Homœopathic Surgery*, Greig Smith on *Abdominal Surgery and Urinary Surgery*, *An Epitome of Modern Surgical Progress*, by Hurry Fenwick, F.R.C.S., are authors that mention a difference. Helmuth calls them "Unstable Kidneys."

He says: "I have given this name to kidneys which are not fixed, in order to mark the difference between the floating kidney and movable kidney. By the former it is understood a kidney which has a mesentery, and which moves within the cavity of the peritonæum, whereas the latter indicates that the kidney is capable of restricted movement within its capsule of fat, or in a sack made between the peritonæum and the abdominal wall. The former is more rare than the latter, and there is always some difficulty in making out the diagnosis. Mr. Lawson Tait is of opinion that the 'floating kidney' is a myth. In general terms, it may be said that the degree of mobility indicates the different conditions. In a case of floating kidney which I exhibited to the Medico-Chirurgical Society of New York, the evidences of unstability were sufficiently obvious to convince the most skeptical. The patient was a young woman of about 23 years. Her general health was good, but she occasionally had severe shooting pains in the right lumbar region,

which were worse upon motion. When lying on her right side and rising suddenly and leaning a little forward, the members of the society detected the kidney (by its shape) in the right latero-lumbar region, and sometimes also a little towards the front of the abdomen. This tumor could be readily moved in all directions, and when the patient resumed the recumbent position the kidney immediately disappeared. Symptoms of dyspepsia with occasional diarrhœa were present, and there was at times sudden stoppage of the urine. The treatment I recommended was the wearing of a bandage."

This I think was a case of movable kidney, although Dr. Helmuth speaks of it as a floating kidney. His treatment was certainly that often used for movable kidney.

Greig Smith says: "A floating kidney has been defined by Jenner as one 'that has a mesentery, a fold of peritonæum attaching it very loosely to the spine.' It is indeed possible that this definition is too precise. The investigations recently carried out under the auspices of the Pathological Society of London would seem to show that one variety of displacement may merge into another, or rather that a movable kidney may so drag out its peritoneal covering as almost to cause the formation of a meso-nephron. To surgeons, as Morris very properly points out, the main consideration is whether or not the kidney has a meso-nephron; that is, whether it can be reached by an extra-peritoneal operation from the loin. Floating kidney is very rare. It is always congenital, and is frequently associated with other abnormalities in the disposition of the peritoneum. In at least two described cases malformation of the large intestine has been found. General laxity of the peritonæum has been found in more than one case of true floating kidney. Very frequently there is considerable intestinal or stomachic disturbance shown by dyspepsia, flatulence, colic, sickness, anorexia and diarrhœa. In a few cases transient attacks of jaundice have been observed. Frequency of micturition or even tenesmus may be present. All such symptoms are relieved by lying down. The diagnosis of movable from floating kidney cannot be worked out with certainty. Excessive mobility may suggest a floating kidney, but it is just as likely to turn out to be a movable kidney with a wide range of mobility. Though it is practically of supreme importance that we should be able clinically to differentiate the one from the other, it has not yet been possible to do so. In the case of a floating kidney, when nephrorraphy may be impossible, the negation of nephrectomy need not be so emphatic. Still in this case only failure of a patient and

skilful attempt at fixation, and the continuation of grave and alarming symptoms, would justify the adoption of the major operation."

Hurry Fenwick merely mentions that there is such a condition.

The Homœopathic text-book says: "Varying degrees of mobility exist, but their classification into floating, movable and palpable kidney has no pre-operative surgical importance." The *Homp. Surg.:* That it has no pre-operative surgical importance.

Helmuth's treatment was practically for movable kidney. Greig Smith mentions nephrorraphy and nephrectomy, but his description is more that of a movable than floating kidney, and he gets relief from all his symptoms from lying down. The difference in the two conditions is wide and distinct. Floating kidney is congenital, having a meso-nephron of its own which is a reflection of the peritoneum and attached round the hilum of the kidney, and floating or anchored within the peritoneal cavity. This is a condition that must make it congenital. While movable kidney may be congenital, it is almost always, if not always, acquired; in fact, it is almost impossible to say when it is congenital. Not so with floating kidney, whose anatomical structure and position peculiar to itself must be congenital.

Floating kidney may be confounded with cancer of the stomach, tumor of the pancreas, distended gall-bladder or impacted fæces. My case, the wife of an eminent physician in one of the towns of our state, was brought to me by the doctor some time in March, 1895, for examination, she having recently recovered from a siege of about four months, in which she was unable to leave her bed, and for a considerable portion of the time was sustained by nutrient enemata. She had had trouble for years, and had been treated both west and east by all schools of medicine with little or no permanent relief. She is a short, rather thick-set lady; aged 38; nullipara; American. She gave the following history: "Began to have attacks, about ten years ago, of terrible pain in the region of the stomach, followed by severe vomiting; ejected matter very sour; would make lips and mouth sore; at times throwing up blood, and would continue vomiting until stomach was empty. There was no regularity in the attacks, beginning with three or four a year, that would last from a few hours or days to weeks. They continued to become more and more frequent, and lasted from two weeks to months. Voice always sounded unnatural, soft and weak, like a person near death. The trouble would cease suddenly, with sensation as if something had given away, the duration of pain being shorter or longer, as it

happened, when she would regain normal condition very rapidly. They seemed to have little or no influence on the urine, except that it was always very yellow. No position gave relief. The last severe attack lasted from September 1 to December 15, 1894, and she had felt badly for weeks before. Stomach refused everything, and had to be fed *per rectum* for four or five weeks. It was diagnosed by Dr. N. S. Davis, of Chicago, "inflammation of the stomach;" by others, "perforating ulcer of the stomach." Would invariably be jaundiced, and always had a blackish or grayish complexion; did not have uræmic symptoms. As soon as attacks subsided, could eat anything without distress. The character of the pain was of a griping, squeezing sensation, growing harder and harder, and would extend through to the back." I found in the region of the gall-bladder a tumor slightly movable, and of about the consistency of an overdistended gall-bladder. As she had frequently been jaundiced with the attacks, and the fact that "the pain began suddenly and ceased suddenly, as if something had given away," as she expressed it, and the persistent vomiting, and the rapid recovery after the cessation of pain and the slight mobility, we thought it was probably biliary calculi with distended gall-bladder, although we suggested, *but with little confidence*, a floating kidney *might* be the cause of the trouble. After consultation with the doctor, we decided upon an operation, and, if I found what was expected, to perform a cholecyst enterostomy. April 15, 1895, the doctor took her to St. Luke's Hospital, St. Paul, Minn. The next day, in the presence of the doctor, with the assistance of Drs. Beach and Ogden, of St. Paul, and Dr. Aldrich, of Minneapolis, we cut down upon the tumor, making the same incision as if we were operating on the gall-bladder. Upon entering the abdominal cavity, we found the tumor to be covered with a thin membrane and quite firmly anchored. Upon bringing it into view, we had a dark, congested mass, with little appearance of a normal bladder. Upon thrusting in a small trocar, and getting little but blood, the mass breaking down easily, we thought, perhaps, it had a degenerated gall-bladder. If this were the case, the only course was either to bring the tumor to the surface and stitch it fast in the wound, or entirely remove the whole mass. We decided the latter to be the better procedure, and began to loosen it from its surroundings, preparatory to its removal, when we discovered we had a kidney. The only thing now to be done was total extirpation. The kidney was below normal in size, very dark, friable, and showing evidence of early breaking down. The wound was closed, the usual

antiseptic dressing applied and the patient returned to bed. She reacted nicely; felt very comfortable; T., 98.4°. Morning of the second day, T., 99.2°; evening, T., 100°, and patient comfortable. At 1 A.M., or thirty-six hours after operation, she began vomiting incessantly. She was given various remedies, which the doctor stated had helped to control her in previous attacks, with little or no benefit. She was becoming rapidly exhausted, and we feared for the worst. The vomit was of that black, peculiar-smelling fluid, with which we are all familiar, that is almost a certain forerunner of a fatal ending. We decided to give her freely of hot water to drink, which was immediately ejected. We then gave her more, and, about the same time, some Nux vomica, by dropping a few drops of the second dilution on the tongue. From that time, 5 P.M., we had no more vomiting, and about two hours' sleep. On waking, T., 101.4°; P., 120. *She* claims the vomiting was the result of the injection of Morphine and Atropine given before the administration of the Chloroform. A dose of Morphine will at any time cause the most persistent vomiting. This fact was overlooked at the time of giving the hypodermic injection. The temperature next morning was 99°, and that evening 100.2°. From this time to the ninth day, the temperature never reached 100°. From the ninth to the twelfth the temperature ranged between 98.4° and 102.4°, which was on the twelfth, and that evening we had quite a copious discharge from a stitch abscess, which had burrowed between the skin and the abdominal muscles. The temperature then dropped to 99.8°, and never reached 100° again, except on the eighteenth day it stood at just 100°, owing to a small pocket of pus, which was the result of cutting off drainage by strapping. She was sustained for the first six days by rectal injections of bovonine and milk, when we began to give some light food, as imperial granum, etc., but continuing the bovonine *per rectum*. The eleventh day she had beefsteak and potatoes, and from that time on a liberal diet. The second twenty-four hours after the operation she passed 35 ounces of urine; the third, 24 ounces; the fourth, 22 ounces; the fifth, 23 ounces; the sixth, 36 ounces; the seventh, 20 ounces; and the remainder of the time no record was kept. On the eighteenth day she sat up three hours, and on the twenty-first went home by rail, 200 miles, with no untoward symptoms. Since the recovery from the operation she feels well; has had no attacks of pain; no trouble from eating anything she wishes; her complexion is clearer, skin softer; she is much fleshier, and feels better than at any time during the past ten years.

My object in writing this paper is to have this Institute tell me what are the symptoms that shall tell me when I have floating kidney, and hence lead me away from my materia medica to surgical interference.

Discussion.

J. H. Thompson, M.D., Pittsburg, Pa.: About one year ago last winter I had a case brought to me presenting very much the same symptoms spoken of. In that case, as in this, tumor had been diagnosed, and almost everything else except floating kidney. The tumor would vary in size, sometimes very large and sometimes almost unnoticeable: sometimes lying down in the ovarian region and sometimes in the stomach. I should think it would move over a radius of eight inches; certainly it was very movable. It was diagnosed floating kidney, with a collection of pus in a capsule, which seemed to empty into the bladder occasionally. I made an incision, and, as I expected, encountered a large amount of the worst-smelling pus I ever met with. I found the kidney about two-thirds gone. We curetted away the balance. The patient made a very nice recovery. She was very weak, but got along pretty well until about a year, when she began to show bad symptoms again, and at the time when she came to the hospital a second time she was delirious. We made another incision and found the rest of it degenerated, so it was not thought best to leave it. At that time the patient was put back to bed almost pulseless. For two or three weeks she was not in her right mind, although she had no fever or anything of that kind to speak of; but she was discharged from the hospital something like two months afterwards, and is now in Detroit, working for some family here, as well as she ever was. This patient was only about twenty-two or twenty-three years old, and it seems in most of the cases of actual floating kidney that we will have a distended capsule with either a collection of pus or urine at times, and that they will be more or less variable in size.

W. D. Foster, M.D., Kansas City, Mo.: I have been much interested in the case reported by Dr. Briggs, as well as the very exhaustive consideration he has given to the diagnostic features of floating or misplaced kidney. The question of diagnosis is of paramount importance in this class of cases. How shall we determine whether it is a case of floating kidney or not? I have a notion that the diagnosis here, as in very many other conditions, must be made by a process of exclusion—finally by exploratory incision.

In the case reported it appears to me that the surgeon would look for those characteristic symptoms which are incident to obstruction of the gall-bladder, or, if you please, the disturbance in the normal flow of the bile, which would be elicited by several different symptoms which are all familiar to you. If I heard rightly the doctor's statement of the symptoms presented in this case, I failed to recog-

nize some of those characteristics which we would expect in a case of obstructed cystic duct. Then I would say, if the patient had no discoloration of the skin, and several other symptoms being absent, that the probabilities would be that it was not a case of disturbance in the gall-bladder. Then, furthermore, the tumor is movable, and all the symptoms disappear when the patient lies down. I recognize the fact that the diagnosis is very difficult, but when the tumor is movable, when the person stands on his feet and the tumor appears in the side, descends and is felt below the ribs, and when the patient lies down it disappears, these are characteristic of floating kidney. We have a condition here which is hardly similar to any other condition except that of an abdominal tumor with a long pedicle.

Some years ago Prof. Parsons, of St. Louis, called the attention of a body of physicians, possibly the American Institute of Homœopathy, to a case in which he had a uterine fibroid with a very long, slender pedicle, and that kind of a tumor would and did puzzle the doctor very much and simulated a floating kidney. I recognize, as I said before, the difficulty of diagnosis; I have seen something of this.

Now, as to treatment. We are all aware of the fact that the surgery of the kidneys is a little bit new; it has had only a few years of clinical study, and of course there are many questions regarding the diagnosis as well as the treatment, which are, in my opinion, far from being settled, and as to the operative steps, as to the advisability of complete extirpation of the kidney, the best surgeons of to-day, I believe, hesitate very much before resorting to this very dangerous operation.

I am well aware of the fact that when surgery of the kidneys was a little newer than it is now the operation of total excision was very warmly advocated by some operators; but the death-rate has been so alarming and so awful that the boldest surgeons now hesitate about making this operation for floating kidney. It is, I believe, considered to be advisable first to consider whether the floating kidney may not be anchored, may not be brought back to its normal situation and there fixed by suturing the capsule to the adjacent tissue first; then, in case this proceeding shall prove futile, you may later on take under advisement the more dangerous operation of nephrotomy. There are two methods of doing this, as you know, one done through the flank with the view to making the incision behind the peritonæum; the other is to make the incision in the *linea semilunaris*, in which we must perforate the peritonæum twice to reach the kidney and remove it through the abdominal incision.

C. E. FISHER, Chicago, Ill.: I do not wish to discuss this question from my own standpoint; but, in the absence of Prof. MacDonald, who contributed the article on the "Kidneys" to the *Homœopathic Sectional Text-Book of Surgery*, I desire to state that the statements he makes therein have no pre operative importance; it simply means

that any case coming to a surgeon as having resisted medical treatment, an exploratory incision is the proper thing, and the treatment of a floating kidney is practically the same, providing there be no organic disease. It is simply that in cases that resist the ordinary method of diagnosis, after we have adopted the process of exclusion as well as other things, he goes at it tentatively and determines subsequently whether he has one or the other, implying that diagnosis in a good many cases is impossible.

G. F. SHEARS, M.D., Chicago, Ill.: I agree with Dr. Briggs, that in the case reported it was very difficult to make a diagnosis. In some cases I believe it is absolutely impossible to make a diagnosis between floating kidney and certain tumors of the gall-bladder, which, as related by Dr. Briggs, may so simulate this condition that definite distinction cannot be made. It has been stated that in enlargement of the gall-bladder you cannot press the tumor back as you can the kidney. This would be a valuable symptom if it could always be relied upon, but unfortunately, it cannot, as I know from my own observation. I have had a case of obstruction of the cystic duct where the gall-bladder could not only be pressed over toward the median line, but could be pressed back apparently into the renal region, and there were no symptoms whatever of jaundice, for jaundice is not always present in obstruction of the cystic duct. It is necessary in many of these cases to make an exploratory incision in order to settle the diagnosis of floating kidney. If you accept the definition of Dr. Briggs, it must be remembered that the kidney is free in the abdominal cavity with a pedicle and with a mesentery of its own, and that if you attack it through the loin you must cut through the peritonæum in order to reach the kidney. It is now a peritoneal organ and very different from a movable kidney which is entirely behind the peritonæum. The case reported by Dr. Thompson was evidently one of movable kidney and not one of floating kidney at all. The floating kidney is extremely rare, many operators have doubted its existence, and if Dr. Brigg's case is thoroughly authenticated, we have a valuable addition to our literature.

R. LUDLAM, M.D., Chicago, Ill.: I may add a word or two perhaps. Those who want to look up the differential diagnosis between these two forms may go to the report made four or five years ago by Dr. Thierer, of Brussels. Dr. Thierer's paper concerns the differential diagnosis of floating kidney and movable kidney in relation to the diseases of women, and it is an exhaustive paper. My own idea on it, based on experience, is this: That unless the kidney is associated with some tumor of its own or of the ureters, which is practically the same, it does not form adhesions. The ureter has a disposition to attach itself somewhere. Simply in cases of misplaced kidney, with abscesses, with cysts, there are adhesions.

I had a case two or three years ago in Hahnemann Hospital, in our town, in which the symptoms resembled very closely those of

ovarian cyst located in the right abdomen. Some symptoms led me to believe that the kidney was involved. I turned the case over to Dr. Shears. He entered the abdomen from behind, making an incision for the kidney, found a displaced kidney, displaced by a tumor attached to its lower margin, as thick as a small watermelon. He had to take away the kidney and the tumor attached to it and all there was about it. Remembering that an adhesion of the kidney or its tumor somewhere bears upon the diagnosis of different kinds of misplaced kidneys, I think we should not forget that in ordinary cases of misplaced kidney you can carry the organ back towards the region where it belongs. No other tumor will go back there. If it has a well-developed kidney form, so much the better. If it goes over by gravity when the patient lies down, so much the better; the diagnosis is more easy.

I went to a town in Minnesota four or five years ago to remove an ovarian tumor which it was said was movable and variable. Two ovariotomists had decided that it was an ovarian tumor and not operable. I cut down upon it and found a large cyst as big as my head attached to the right kidney in some curious way. I ligated it and cut it off; I was satisfied with ligating the pedicle and leaving the kidney behind. The patient made an excellent recovery and had no trouble afterwards.

I should say that, while these cases are difficult of diagnosis, what Dr. Fisher has said, and others, is practically true, that if the tumor gives a great deal of trouble, if the case is so bad as in the case reported by Dr. Briggs, or anything like it, then exploratory incision in cases of doubtful diagnosis applies to diagnosis and is not an operation. These cases are very interesting, and I am very much obliged to Dr. Briggs, and refer you to the essay of Dr. Thierer showing the relation between floating and migratory kidney in certain diseases of women.

J. H. THOMPSON, M.D., Pittsburg, Pa.: I do not agree with the statement made just now, because in the first operation that I spoke of in cutting down the peritoneal tract I found myself in the peritoneal cavity, that is, in contiguity with what had been formed about the remaining portions of the kidney; I was somewhat alarmed, thinking I was in the peritoneal cavity, but found it had been entirely walled off.

I would like to put myself on record as saying that in these cases of floating kidney it is good surgery, where there is no pus in the capsule, to bring that up into position, stitch it into place and let it adhere just as you would a uterus that was displaced.

THE CHAIRMAN: Dr. Briggs will have the privilege of closing the discussion.

DR. LUDLAM: I would like to hear from Dr. Comstock.

DR. COMSTOCK: I only wish to know if the French do make such a distinction between a movable kidney and a floating kidney.

DR. LUDLAM: I do not think they make any such distinction between a movable kidney and a floating kidney.

DR. BRIGGS: It seems to me when Dr. Shears says it was a movable kidney, he certainly had a kidney that changed in situation, it adapted itself to the ureter. If he had not corrected himself and said he went into the peritoneal cavity, I should say he did not have a floating kidney at all.

As to Dr. Foster's criticism as to not having the proper symptoms for gall-stones, I think he did not understand what I said. I think he had several symptoms of gall-stones and none of floating kidney. Then, again, this kidney was not movable, could not be moved any more than you could move a gall-bladder. Then, again, Dr. Foster says do not operate upon the kidney. I have operated a number of times during the last three or four years, and I have already reported clinical cases. All the cases have done well, save one, which was practically dead when I operated. I told them that the man could not live, but there was a dispute between myself and a number of prominent Allopaths as to what was the trouble. He was thrown from a car in Chicago some two years previous, and from that time complained of more or less pain in the lumbar region. They finally had an operation upon the bladder before I saw him, on account of the pus he was passing. They opened the bladder, found nothing but a little granulation at side of left ureter; shut him up, and said he had cancer and must die. They had a consultation of six or seven of our leading men there, and they all decided that the man must die. I was away from home at the time; they met me at the train, and I went directly to see the young man, and without knowing the previous history, except that he had had the operation without any success, I looked him over and said there was an abscess around the kidney. The brother-in-law with whom he was living was a druggist and a very rank Allopath, had always been such, and he could not believe it, and would not; he went back to his old Allopathic friends, and they all said that anybody that said that man had an abscess of the kidney was a d—d fool and a fraud. I gave him remedies, and he improved somewhat, but they would not submit to an operation for two months after I told them. We got large clots of pus in the urine, and finally they consented to the operation, and not until the man saw the pus coming from the patient's back would he give up; but he had not vitality enough to rally; he died from exhaustion. There were quarts of pus. That is the only case I have lost from an operation; the only case that has died up to date.

The case referred to of tumor with a long pedicle does not apply to this case; that is more applicable to a movable kidney, and not a floating kidney. I think it is of great importance to know what kind of a case we have.

Sphincteral Dilatation as a Resuscitant in Chloroform and Ether Narcosis and Asphyxia-Neonatorum—Its Legitimate Merits Defined.

By W. E. Green, M.D., Little Rock, Ark.

In speaking upon this subject it is not my intention to in any way belittle or discredit this method of restoring to life a human being whose animation has been suspended through the lethal influence of any of the subtile agents used in the production of anæsthesia. It shall be my endeavor from practical deductions to give it the standing it properly merits. That it is a means of resuscitation worthy of serious consideration, I will frankly admit, but that it is the all necessary one, or that it is superior to some others, I must deny. As my friend Macdonald tersely stated, "A thing to remember, but not to be wholly relied upon."

The sphincter ani is a voluntary muscle, receiving its nervous supply from the hæmorrhoidal branch of the fourth sacral. The sacral nerves are five in number on each side; all the anterior ones communicate with the sacral ganglia of the sympathetic at their exit from the sacral foramina. The fourth, from which the sphincter ani is supplied, like its fellows, gives off a branch which joins these ganglia. These ganglia communicate freely with the pelvic or inferior hypogastric plexus; inosculating nerve filaments in abundance pass downwards from the epigastric to the pelvic plexus. The epigastric solar plexus supplies all the abdominal viscera. The great splanchnic, which is formed by branches from the thoracic ganglia, terminate here in the semilunar ganglia. The sympathetic supply passes upwards along the cords on either side to the last cervical vertebra, when the inferior cardiac branches are given off, which join the middle and superior cardiac to form the cardiac plexus; this plexus with its ramifications supplies all the thoracic viscera.

When we study this chain of sympathetic nerve distribution running up to the brain and consider its physiological relation, it is easy to understand the philosophy of reflexes and to comprehend the multiple and far-reaching pathological manifestations of nerve

irritation. The effect of sphincteral stretching upon distant organs no longer rests upon speculative theory, but becomes a fact founded upon physiological principles. But what we want to know, as surgeons, is to what extent does this physiological law hold good, to what extent can it be relied upon in actual practice? This, like all other agencies in the domain of medical uncertainties, can only be demonstrated by experimental research. Experiments made by either enthusiasts or novices are not calculated to carry conviction to the mind of sincere and unbiased investigators. There are so many factors involved in establishing a truth which may be warped by enthusiasm or misconceived by want of experience, that only the cold, calculating, non-sentimental plodder is capable of arriving at correct conclusions. Through the writings of enthusiasts and inexperienced operators, we are persuaded that by the aid of the bivalve, chloroform is shorn of its dangers and surgery thereby loses the major part of its terrors, and the uninitiated can sally forth, scalpel in hand, to do battle with disease, not fearing disaster from this potent and dangerous agent. While we think the advocates of this theory are sincere in what they state, and the teaching in a measure is true, it is possible that their data are wrong and the conclusions erroneous. Is it an anatomical fact, as they state, that all the involuntary functions of the human organism are governed solely by the sympathetic nervous system? Is not the cerebro-spinal the great governing power—the head-centre of all nervous force? All the orifices of the body are by nature endowed with more or less acute sensitiveness, and though they are more or less supplied by the sympathetic nervous system, does this hypersensitive condition that arouses to action all the inanimate functions of the body belong exclusively to these nerves? As before stated, the sphincter ani receives a nerve supply from the fourth sacral; the uterus communicates directly with the cerebro-spinal through the third and fourth sacral; the bladder (sphincter vesicæ), through the fourth sacral. These are sensory nerves, and it is these, when dilatation is practiced, that impress the vital forces to action. Suppose the spinal cord is injured, what takes place? The functions governed entirely by the sympathetic ganglia continue, the circulation and nutrition, though impaired, go on, but not so with those dually supplied. All action and sensation below the point of injury ceases, the sphincters are paralyzed and fail to respond to dilatation, because the cerebro-spinal nerve force is gone, and the sympathetic, from this loss, also works feebly. Suppose a bullet is sent crashing

through the brain and this great governing centre is disabled, what follows? The whole nervous machinery stops, because the driving power has stopped. The facts are, that though the brain may be so obtunded that cerebration is abolished, it is yet the great centre and creator of nerve force and action. When the impressions here, from any cause whatever, are overpowering, there is and can be no response from sphincteral irritation. I have never from my own personal experience, in a single instance, seen any beneficial results from anal dilatation in chloroform or ether narcosis, where the condition was profound and highly critical, and under my observation, where it was successfully practiced by others, there was usually no real danger, the cases were not such as would have excited my apprehension. I have time and again seen operators drop their instruments and a scene of excitement ensue, when had there been a thoughtful, cool and experienced anæsthetist in charge, there need have been no interruption in the proceeding; and I have also seen operations abandoned through fear of evil results from the anæsthetic, when only a temporary suspension of respiration occurred. I grant you that these cases would all have yielded to sphincteral irritation. But let the influence, whether from injury, opium, ether, chloroform or any of the narcotics, be overpowering to the cerebro-spinal system, and there will be no response to this method. Individual idiosyncrasies are an important factor in the response given to anal dilatation. Some patients are so irritable about the anus that it requires profound anæsthesia to destroy the sensibility, while others will tolerate extreme dilatation without resentment, when not deeply under the influence of lethean vapors. Dr. Macdonald, who made extensive notes on the subject, estimates that 15 per cent. of all cases under ordinary anæsthesia yield no response to dilatation.

Clinical Observations.—CASE I.—In the summer of 1881, long before the discovery of this mode of resuscitation, I was anæsthetizing a patient for the purpose of dilating the anus for the cure of a fissure of the rectum of long standing. The patient, female, was so sensitive that it was impossible to make any examination of the parts whatever; on this account I ordered the anæsthesia carried to the point of stertorous breathing. Just as I was in the act of beginning the dilatation the patient ceased to breathe. I decided to complete the operation and resuscitate the patient afterwards, I therefore introduced both thumbs into the anus and thoroughly dilated the sphincters, but it made no impression whatever upon

the breathing; she was placed in the vertical position, head down, and restored by artificial respiration. I have often called this case to mind since the agitation of anal dilatation.

CASE II.—Female; æt. 42. While performing the Whitehead operation for the removal of hæmorrhoids, the patient, who had shown considerable cardiac weakness throughout the operation, suddenly ceased to breathe. The Pratt's bivalved speculum was introduced and rhythmical dilatation of the sphincters was practiced. There was no response whatever. Artificial respiration was resorted to, which soon resuscitated the patient. The operation was finished without further need of the anæsthetic.

CASE III.—Female; æt. 34; operation, amputation of cervix. Though the heart was acting fairly well, the patient breathed badly, and more or less cyanosis existed. Suddenly the respiration ceased entirely. Rhythmical dilatation of the sphincters was performed with the bivalve without any response whatever. Artificial respiration while in the horizontal position soon restored her.

CASE IV.—Male; æt. 23; operation for varicocele and amputation of scrotum. Though the cardiac action was good, the breathing was impeded. The anæsthetist requested me to use the bivalve. I did so, and the breathing stopped at once and the heart almost ceased to beat. The instrument was removed, strychnine administered and operative measures suspended for a few minutes, when the patient rallied and the operation was concluded. I then attempted to dilate the anus, preparatory to removing some hæmorrhoids, when the patient ceased to breathe and the heart again flagged. It was with the utmost caution that I could complete the rectal operation. I am perfectly convinced that an incautious or persistent dilatation would have killed this patient.

CASE V.—Female; æt. 35; anæsthetic administered for the purpose of making an examination of the pelvic viscera. Patient suddenly ceased to breathe, and the pulse became imperceptible at the wrist. Anal dilatation elicited no response whatever. The patient was placed in the vertical position and artificial respiration resorted to, which soon restored her. The mixture, C. E., that was being administered, was changed to ether, and the examination concluded.

CASE VI.—Female; æt. 16; opium poisoning; drug taken with suicidal intent. I saw her four hours after it was taken. Pupils greatly contracted; breathing eight to ten per minute; pulse 40. Thorough anal dilatation with the thumbs was practiced, without any effect. Patient died at the expiration of six hours.

CASE VII.—Asphyxia neonatorum. Natural labor; child weighed nine pounds, plump and apparently healthy; cried as soon as born. Within a few minutes the breathing became impaired, and soon dropped to three or four gasps a minute. After half an hour's attempt at resuscitation with but slight improvement, anal dilatation with the finger was instituted without any effect whatever, efforts at artificial respiration were resumed, but the child died in six hours.

CASE VIII.—Infant; weighed 8½ pounds; well nourished. Delivery with forceps under chloroform; child greatly cyanosed; gave one or two gasps and then ceased to breathe. After a few moments of ineffectual efforts at resuscitation, anal dilatation was done with the finger without the slightest effect. The continual performance of artificial respiration restored it.

CASE IX.—Infant; weighed 5 pounds; delivery with forceps under chloroform; child cried and breathed fairly well for a few moments, but was much cyanosed; it soon ceased to breathe entirely. Anal dilatation with the finger was performed without the slightest result. The child was placed upon an inclined plane, head down, and artificial respiration regularly performed for half an hour, eliciting only an occasional gasp, the heart continuing to beat feebly. Finally success crowned the effort, and the child still lives, now a fine little boy.

CASE X.—Infant; weight, 10½ pounds; plump and healthy looking. Delivery with forceps under chloroform. Soon after it was handed to the nurse she directed my attention to the fact that it was not breathing. It was greatly cyanosed, and the heart was beating slowly and very feebly. I immediately dilated the sphincter. A slight quiver passed over the child, but there was no respiratory response, but the heart's action jumped up as though impelled by electricity and continued to beat strongly. The child was placed on an incline, head down, and artificial respiration regularly performed for several minutes, when the little fellow began to gasp and finally cry vigorously.

This is the only case, in the new-born infant, where I have ever seen the slightest effect from sphincteral irritation, and to my surprise the responses here came in the heart, and yet it is a fact that the heart is much less affected by dilatation than the respiratory functions.

Summarizing, I will state my conclusions as follows: Both the pulmonary and cardiac action are influenced by sphincteral irrita-

tion. The heart is less frequently acted upon than the lungs. The effect is much more pronounced in some subjects than in others, a good percentage yielding no response when moderately under the influence of an anæsthetic. A few are absolutely injured and some patients can be killed by it. When patients go under the anæsthetic slowly or badly, anal dilatation usually acts beneficially and promptly. Also when respiration ceases when profound anæsthesia does not exist. When the lethal action of the drug has developed, the great nerve centres being overpowered, a universal muscular relaxation existing; the eyes are open, the pupils widely dilated; the face pallid, the breathing has ceased and the heart beats slowly and feebly, a genuine case of chloroform narcosis, anal dilatation will fail; at least this is in accordance with my observation. In such cases strychnia should be administered hypodermically, the head and shoulders greatly depressed and regular and persistent artificial respiration performed.

I wish to say in closing this paper that I express my own convictions from personal experience. In doing so, I claim the same right to think for myself and express my conclusions as I grant to others, and I desire to say further, that I am making no personal attack upon any one's published and expressed views. I have spoken with the sole idea of throwing what light I can upon the subject.

Discussion.

J. M. Lee, M.D., Rochester, N. Y.: I heartily endorse every word of that paper. We come here from great distances; we have to leave our business behind and spend often from forty to fifty dollars a day to gain the benefits of this great organization. We care nothing for fine-spun theories; we want solid facts.

I had one case in which dilatation of the sphincter was effectual; in all the others there was no effect whatever. I believe, with the author of the paper, that in those cases in which there was response the patient was only in the second stage, and that if the surgeon had been cool and collected for a time the respiration would have been re-established. I doubt if the benefits derived from the operation go beyond those which accrue from the dilatation of the sphincter when the patient acts badly in going under the anæsthetic; beyond that it is practically valueless. Where the patient holds the breath and refuses to go under, the operation is of considerable service; but I am not just certain but that you might get the same effect by punching the patient about the genitalia.

T. G. Comstock, M.D., St. Louis, Mo.: I am quite in accord with the statement of Dr. Lee. I call to mind, however, a single case of

a patient to be operated upon by Dr. Mayfield, at the Baptist Sanatarium at St. Louis, who, while inhaling chloroform and seemingly well under its influence, suddenly became collapsed. The patient was placed in a reversed position, and at my suggestion Dr. Mayfield dilated the anus and consciousness soon returned.

In my own experience I have not had an accident of the kind where it could be applied, but a brother-practitioner in St. Louis informs me that he has had some favorable experience with it. In severe paroxysms of hysterical contortions (apparent spasms) dilation of the rectal sphincters is a rational procedure, and is to be highly recommended. In one rather remarkable instance of this kind, in my own private practice, I found it successful. A specialist of large experience in nervous diseases informed me that he had tried it repeatedly in hysteria with good results.

CHAIRMAN: I have used it myself in hysteria and it acted well.

DEAN T. SMITH, M.D., Jackson, Mich.: A friend of mine told me of a novel experience he had in dilating the anus. It is different from anything I have ever seen. In a case of typhoid fever the patient became comatose, and he was with the patient all night. Four or five times during the night the pulse became weaker—the respiration shorter, and he thought surely the man would die. He used the bivalve speculum, the man revived, and the next day reaction set in and the man lived. I have had some experience with rectal cases, with just about the same results as Dr. Green.

I had one chloroform case that stopped breathing and the pulse stopped. Stretching the sphincters of the rectum brought the patient to, but I tried stretching the sphincters the first thing. Perhaps artificial respiration would have done as well.

G. W. ROBERTS, M.D., New York, N. Y.: Until recently in New York we have not been much given to orificial methods; but about a year ago the epidemic swept over New York City, and it is remarkable how it has taken hold among a class of physicians who are not, as a rule, close observers of surgical work. I have watched pretty carefully dilatation of the sphincter during administration of anæsthetics, and it has been stated that you could control respiration by the grasp of the hand exactly the same as a piece of machinery. I do not believe it can be done, and I have watched case after case; I do not believe that 15 per cent. of the cases will show, when they are *deeply under the anæsthetic*, any response whatever. I do know that a case *partially* under the anæsthetic will respond. But when you come to place dilatation of the sphincter beside methods of resuscitation which have stood the test of years, like artificial respiration, inverting the patient, etc., it seems a great injustice; and it seems to me that it is a mistake for us to follow the enthusiasm which unqualifiedly recommends such methods. If you will look through our literature, the published reports of the Bureau of Surgery and Gynæcology for the last four or five years,

any one would swear that there was very little in either surgery or gynæcology but orificial surgery, and I believe that one of the best signs of the times is that at the present meeting there seems to be a reaction.

G. F. SHEARS, M.D., Chicago, Ill.: As to the treatment of chloroform narcosis, I have never had a patient die under chloroform, and I have given chloroform quite uniformly for the last fifteen years in both my hospital and private practice. I have given chloroform to dozens of people whose physicians have said they could not take any anæsthetic. I have given it to patients with valvular disease of the heart, to patients seventy-five years of age and to babes only a few weeks old. I believe that in most instances deaths result from a careless administration of the anæsthetic. I have no confidence whatever in the value of rectal dilatation when the patient is fully under the influence of an anæsthetic. Under such circumstances the patient feels nothing, and if he does not feel, the speculum is of no service whatever. It is only a waste of time and results in getting the surgeon's hands or those of his assistant in a filthy condition. If he would remain cool, practice artificial respiration with pulling out the tongue, all difficulties would be removed. I believe that where the patient goes badly under the anæsthetic, in a large share of instances, one will derive as much benefit from forcibly bending the little finger (as we have all done when boys) as one can get from the dilatation of the rectum.

R. LUDLAM, M.D., Chicago, Ill.: It seems to me, with proper precautions, there could be almost no danger from its use. Nowadays when we give it with the Esmarch's inhaler, or some modification, we could use so very little that there is almost no danger. I give it for abdominal operations and sometimes prolonged ones, by using two tablespoonfuls of chloroform, perhaps a very little more than that; a tablespoon and a half is enough for a short operation. By giving it drop by drop on the inhaler, this inhaler secures a proper admixture of air, and it is impossible to have any harm occur from it if the patient is well watched and in proper physical condition. I am glad this matter of anal dilatation has come up, because I think it is humbug.

W. D. FOSTER, M.D., Kansas City, Mo.: I am very glad to see the real fact in this matter emphasized. I concur with the statement made by the author of the paper as well as with the opinions already expressed here by the speakers who have preceded me, in regard to the value of the dilatation of the sphincter in chloroform narcosis. I have seen the sphincter treatment used a great many times, and have used it myself, and the important fact has been tonight brought out, and the whole question is put on its merits, namely, that when the patient is profoundly anæsthetized, it makes no difference whether you cut the patient with a knife or dilate the sphincter with the speculum, the patient is unconscious.

CHAIRMAN: You can cut the sphincter out if you want to.

DR. FOSTER: The patient is insensible and immovable; whereas, on the contrary, when it is possible to disturb the respiration or the circulation by the introduction of the anal speculum, then that individual is not properly anæsthetized, and is not fit for any kind of a surgical operation; and I am very glad to see that essential point clearly stated here to-night. We older fellows are just about as skilful in regard to the same thing, and I am free to say that there was a time when I thought that the dilatation of the sphincter was a resort of absolute value in chloroform narcosis, for the reason that I had not stopped to think, to satisfy myself that this particular individual was not fully under the effects of the anæsthetic. I did not fully consider it; but I saw a person introducing the speculum, and I saw the disturbance of respiration, and at once concluded that it was a very powerful force that might be utilized in certain cases: but I am satisfied now it has no further effect than that already stated, and I am very glad to see the matter put upon its merits.

DR. LUDLAM: There has been too much speculation about it.

HENRY E. SPALDING, M.D., Boston, Mass.: While I disclaim the title of orificialist, I do quite a little rectal surgery, and I have learned this thing, that my patient must be more deeply under the influence of the anæsthetic for operations on the rectum than almost any other operation; and I find that, when my patients are deeply under, by dilating the sphincter we do get a disturbance of the respiration. I remember one case. The rectum was so very sensitive that you could not even introduce the finger without causing great pain, except under the influence of ether. The patient was apparently anæsthetized and put in position, the yoke under the knees. I introduced the speculum, and as soon as I began to dilate it he became so rigid that he broke the yoke. This was in the Massachusetts Homœopathic Hospital. There were several physicians and surgeons standing around, and the etherizer who had charge was an adept in the work and considered him deeply under and ready for any operation. It had nothing to do with his breathing at all. I have used it in cases where apparently they were not going to rally. I have used it in cases where they stopped breathing; but I do not think they were very dangerous, and would, perhaps, have got along without the dilatation, but this aroused immediate response. I simply speak of the fact that I do know that there is great sensitiveness there, and that I have put my patients more deeply under the ether for an operation.

DR. LUDLAM: The question before the meeting is chloroform narcosis, and not ether nor the use of ether, because there are cases of that sort in which ether will not cover up the reflex action of the patient at all, and you have either got to operate with the patient a

little under it or use chloroform and put the patients where they will not feel it. I have been doing it for thirty years, and know something about it.

DEAN T. SMITH, M.D., Jackson, Mich.: Professor Shears remarked that doubling up the finger will probably have the same effect as dilating the anus. I believe that all of us who have been doing orificial surgery have found cases where the respiration has failed —not simply a sudden spasm of the muscles, but in introducing the speculum the respiration has stopped; and I am convinced, from my experience, that there is special connection between the sympathetics of the sphincter muscles of the rectum and the organs of respiration.

CHAIRMAN: That connection was traced out in my article.

DR. SMITH: But some of the other speakers ignore entirely the influence of the reflexes. The point I would make is this: Dilating the anus has an influence on the respiration independent of the pain it causes. When a patient is so thoroughly under the influence of the anæsthetic that no spasm of the muscles will be caused by the dilatation, respiration may be influenced by it.

DR. LUDLAM: We are talking about clinical experience—not physiology.

G. F. SHEARS, M.D.: I am not objecting to the anatomy given in the paper. My illustration was used to indicate the little value I place upon rectal dilatation in the treatment of chloroform narcosis. I recognize that the rectum is a sensitive spot, and that so long as sensitiveness remains it is apparent in that locality; but my point is, that in real narcosis, not simply in irregular breathing, there is no sensitiveness, and therefore the dilatation is not of service. When the narcosis is not complete no remedy is needed.

C. T. HOOD, M.D., Chicago, Ill.: I think perhaps this paper is a little bit misleading. While I am not an orificialist or a general surgeon, at the same time I see some surgical work; and while I know that the Chairman of this Section is counted among the best of general surgeons, still, I think it is perhaps a little bit misleading. In the cases where he reports anal dilatation was used in the new-born, I think they were all probably instrumental deliveries.

DR. GREEN: One was not.

DR. HOOD: We all know that many children are born, even without instrumental deliveries, that have hæmorrhage that takes place in the membranes of the brain, or between the membranes and the cortex, sufficient to interfere with respiration; and frequently, capillary hæmorrhage takes place after birth, so that respiration shuts

off these cases. I have seen cases where anal dilatation was decidedly of advantage in cases of the new-born, where artificial respiration failed—not once but a half dozen times or more.

In regard to the use of dilatation in chloroform narcosis, I think Dr. Shears has hit the nail squarely on the head when he says a great deal depends on who gives the anæsthetic. It has been my duty to administer chloroform and ether a great many times, and I have had considerable experience, both with them separately and combined, and I know there is a vast difference in the way anæsthetics are given, and in the results obtained, and in the necessity for the use of any kind of restorative measures. Those of you who have watched, as perhaps most of you have, know how many times in giving an anæsthetic the person administering puts the anæsthetic on the cone too frequently, and then there is a sudden suspension of respiration; then a renewal will help you out. I have never seen it tried in profound narcosis, but profound narcosis requires every means that we know of to work on the patient; and if you have a bivalve speculum I don't think it would do any harm, because those of us who have watched Dr. Pratt in his clinic and seen him dilate, and how he can, and how he does, effect respiration by that bivalve, cannot doubt that it has something to do with respiration.

W. E. Green, M.D., Chairman: The fact that I wished to elucidate in this paper seems to have been misconstrued. I did not state that anal dilatation does not affect the respiratory action, for I know that it does, and I so stated. The question under discussion is, "Is it a reliable resuscitant in Chloroform and Ether narcosis?" By narcosis we do not mean a spasmodic suppression of the breathing, nor do we apply the term to anæsthesia that has not passed the bounds of sensibility.

I know that many times when a patient breathes badly or superficially, and goes under the lethean effects of the drug slowly, sphincteral stretching will arouse him, cause him to breathe deeply and greatly hasten the process. It is when the patient has reached the border line, when the nervous life is almost extinct; in such cases you might tear out the sphincters and there will be no response. It is false teaching, and it is wrong to send inexperienced men out to do surgery with the idea that they can resuscitate every case by this method, for they cannot do it.

The object of this paper is to dissipate this thought, and to place before the profession the legitimate sphere of the procedure.

I wish to say one word in reply to Dr. Hood. The only child that I reported that died was the one that was not delivered by instruments.

I want to state here just one little fact, though it has nothing to do with the subject: Some time ago I was removing a tumor from the left superior carotid triangle; in doing so I inadvertently cut the jugular vein. I put a pair of forceps on the opening to stop the flow of blood. Just at this time the patient ceased to breathe,

I put the patient in as near a vertical position as I could and performed artificial respiration, but he did not breathe. I was becoming somewhat anxious when the forceps that were on the jugular vein slipped off and the blood gushed forth in large quantities from the cardiac end of the vein; the patient immediately began to breathe. This shows conclusively to my mind that the depression of the head unloads the right side of the heart, which is so over-distended that it has no longer the power to contract.

Surgical Cases.

By James H. Thompson, M.D., Pittsburg, Pa.

Out of the list of private cases operated upon and treated surgically during the months of January, February, March, April and May, 1896, I will report a few of the interesting ones from the tabulated list, which numbers 144.

They belong to the gynæcological, abdominal and general surgical work, and include both the major and minor operations, all of which I shall respectfully submit for your consideration.

In reporting the cases which I have selected I will confine myself chiefly to those classed under the head of general surgery. Following I give a tabulated list of all the cases and the different methods of operating:

Vaginal hysterectomy for carcinoma of the cervix uteri. A. Martin's method, ... 3
Vaginal hysterectomy for subperitoneal pediculated fibroid of the uterus. S. Pozzi's method, ... 1
Vaginal hysterectomy for an interstitial fibroid of the body of the uterus. A. Martin's method, ... 2
Vaginal hysterectomy for a fibro-sarcoma of the fundus uteri. Pean's method, ... 1
Vaginal hysterectomy for an intra-mural multiple myomata and double pyosalpinx with right ovary degenerated into a cyst. Combined method of A. Martin and Pean, ... 1
Laparotomy for fibroma encapsuled, intra-peritoneal enucleation. S. Pozzi's method, ... 1
Abdominal hysterectomy for fibro cystic sarcoma of the posterior wall of the uterus. A. Martin's method, ... 1
Double ovariotomy for diseased ovaries; cystic degeneration. Lumpe's method, ... 2
Double ovariotomy for the removal of the appendages to control hæmorrhage caused by a bleeding fibroid tumor. Lawson Tait's method, ... 1
Nephrorrhaphy for a floating kidney, congenital. Keye's method, 1
Kolpoperineorrhaphy for lacerated perinæum and rectocele. Sims's and Hegar's method, ... 4
Kolpoperineorrhaphy for lacerated perinæum and rectocele. A. Martin's method, ... 3

Kolpoperineorrhaphy for lacerated perinæum. Lawson Tait's new method, ... 3
Anterior colporrhaphy for vesicocele. Thomas and Munde's method, ... 3
Trachelorrhaphy for crescentic laceration of the cervix uteri. Skene's method, ... 2
Trachelorrhaphy for stellated laceration of the cervix uteri. Fehling's method, ... 4
Trachelorrhaphy for incomplete bilateral laceration with eversion. Schroder's method, ... 3
Trachelorrhaphy for extensive multiple laceration with cystic degeneration simulating epithelioma. Emmet's method, . 1
Trachelorrhaphy for a deep unilateral laceration with eversion. Munde's method, ... 4
Anterior vaginal fixation for retroversion of the uterus. Mackenrodt's method, ... 2
Amputation of cervix uteri for elongation and subinvolution. Sims's and Hegar's method, ... 3
Amputation of cervix uteri for cystic degeneration. A. Martin's method, ... 2
Amputation of the mamma, with the cleansing out of the axilla. Kocher's method, ... 2
Amputation of the buttock, one-fourth, for an immense condyloma, ... 1
American operation, removing the pile-bearing inch for prolapsus of the rectum and hæmorrhoids. Pratt's method, . . . 2
American operation, removing the pile-bearing two inches for carcinoma of the rectum. Ullman's method, ... 1
Clamp operation for removal of hæmorrhoids, ... 3
Ligature operation for removal of hæmorrhoids. A. Martin's method, ... 2
Curetted uterus for specific chronic endometritis, ... 2
Chronic non-specific endometritis, ... 4
Acute endometritis following miscarriage. A. Martin's and Fritsch's method, ... 2
Polypus of uterine cavity removed by forceps and curetting, . 2
Dilation of the cervix uteri for stenosis, causing dysmenorrhœa. Hegar's method, ... 3
Chronic ulceration of the bladder, ... 1
Acquired atresia of the cervix uteri operated by puncturing the cervix, ... 1
Divulging of sphincter ani for fissures and irritable sphincter. Rapid dilatation, ... 4
Amputation of penis for epithelioma of glans penis. Ullman's method, ... 1
Radical cure for hydrocele. Prof. Albert's method, ... 2
Phimosis for elongated and contracted prepuce, ... 4
Tenotomy for talipes valgus, equinus and calcaneus. Prof. Seyer's method, ... 2

Fistula of rectum dissected out and closed with fine catgut sutures,	3
Prostatic abscess,	2
Chronic hypertrophy of prostate gland,	2
Dilated sigmoid flexure for stricture with rubber bougies,	1
Dilated urethral strictures with steel sounds,	10
Plastic operation on the face for denuded surface due to the removal of a large epithelioma. Budinger's method,	1
Plastic operation on the abdomen for an abdominal fistula, result of supra-pubic lithotomy. Pozzi's method,	1
Chronic varicose ulcers of the leg treated by skin grafting. Tierch's method,	5
Intercapsular fracture of the hip (left),	1
Subspinous dislocation of the left hip-joint,	1
Compound fracture of the forefinger,	1
Pott's fracture of the right leg,	1
Carbuncles,	3
Wens,	5
Pharyngeal abscess,	1
Lacerated wound of the scalp,	5
Diffused periostitis of the tibia and coccyx,	2
Lacerated ligaments of the ankle,	3
Lacerated ligaments of the knee,	2
Amputation of the uvula,	1
Mastoid abscess,	1
Radical cure for varicocele. Keye's method,	1
Burns on hand and face,	2

CASE I.—The first of the series that I wish to report is the one tabulated as an epithelioma of the left cheek, owing to the enormous size and the delicate tissues involved, requiring very careful dissecting, as it extended to and included the lower eyelid, nose and the entire left cheek, the denuded surface measuring four inches in diameter.

The patient, Mr. C., aged 53, fourteen months ago noticed a small warty growth on left lower eyelid. Paying but little attention to it at the time, it continued to enlarge, and later ulcerated, and discharged a very ichorous and offensive matter, with sharp cutting and lancinating pains. The discharge caused a very severe purulent conjunctivitis. He consulted me April 10, 1896, as to the nature of the growth, and as to what could be done to relieve him of his intense suffering. On a thorough examination of the surface, base, and glands, I found that on the slightest manipulation it would bleed profusely, and its edges or base become greatly indurated, and both the cervical and submaxillary glands enlarged. I removed a small portion of the growth under cocaine, and made a microscopical ex-

amination. It consisted of numerous long stems, each having at its centre a vascular loop, the exterior covering being long, cylindrical cells among the mass of cells, permitting serum to ooze through their walls, and this is the chief source of the watery ichorous discharge of the disease. My diagnosis being verified by the above examination, I advised the entire removal *en masse*. On April 20, 1896, he was anæsthetized, and I proceeded with the operation by outlining my incision, so as to make the denudation as much of an elliptical shape as possible, in order that my flap brought from the throat and neck would be easier to coaptate, and also easier to close the wound produced by the same. Having outlined my flap, I brought it up attached to a small pedicle, and neatly coaptating with catgut sutures, making at the same time a complete lower eyelid, all in keeping with the one removed, with the slight exception of the lashes, keeping open the lachrymal duct. After completing the coaptation by many small catgut sutures, I dressed the wound with a dry antiseptic dressing, the dressing being removed in forty-eight hours, to find all in the very best condition, with strong adhesions by first intention. At the same sitting removed all stitches, and redressed as before. Removed the dressing every other day for ten days, at which time he was discharged cured, wound being completely healed by first intention without a drop of pus. At no time did the temperature arise above 99, and was followed by uninterrupted recovery.

Case II.—Mr. D. H.; aged 42; one year ago noticed a warty excrescence springing up from the corona of the glans penis, in the dorsal surface, underneath a very contracted and elongated prepuce. His attending physician at the time removed the growth with the entire prepuce, relieving the phimosis, but to the surprise of both the patient and physician, the growth returned with renewed vigor at the end of six weeks. Not being informed of the nature of his trouble, he placed himself under the care of one of our very best materia medicists of this city for nine months, at the end of which time he found himself no better, but gradually growing worse under the treatment. On January 20, 1896, he came to consult me as to its nature and the advisability of having it removed. Collecting all particulars of the case as to its origin and steady growth, with its general appearance, caused me to pronounce it an epithelioma of the glans penis. I verified my diagnosis by the aid of the microscope. The ulcerated surface was the size of a silver dollar, covered with a very offensive and ichorous discharge. The inguinal

glands were slightly enlarged, so I advised amputation of the entire organ, with the cleaning out of the glands, to which he readily consented with a slight variation, and that was he felt the loss of one-third was sufficient for the first seance.

June 25th he was anæsthetized, and prepared antiseptically for the operation.

The first step was to draw back the integument and remove the diseased one-third by a single sweep of a knife; controlled all bleeding points by ligating with small catgut ligatures and hot water. Carefully dissecting up the urethra to the extent of one-half inch and slitting it up an equal distance on its under surface, leaving the corpus spongiosum and the urethra longer than the rest, and stitching the edges of the mucous membrane to that of the skin. Dressed with a dry antiseptic dressing; no elevation of temperature; removed the stitches in forty-eight hours to find all healing kindly by first intention; inguinal glands were cleaned out at the same sitting; recovery was uneventful.

Recurrences, however, are exceedingly common after this manner of operating. Cicatricial stricture at the orifice invariable. To avoid all this, Tiersch has recommended an oval incision around the root of the penis, prolonged a little backward in the median raphé of the scrotum, and then dissecting off the whole of the corpora cavernosa from the rami of the pubes and the triangular ligament. The corpus spongiosum and the urethra are dealt with separately. Micturition must be effected in the sitting posture, as it lessens the chances of the formation of stricture, and there is much further freedom from return of the growth.

Tiersch's operation was refused by the patient, saying a half was better than none at all. Wheelhouse has pointed out the greatly increased comfort the patient experiences when the testes are removed as well.

Case III.—Mrs. W.; æt. 76; widow; January 26, 1896, fell from her piazza, a distance of two feet, backwards, striking upon the trochanter major, producing an irregular or anomalous dislocation of the hip-joint. On arriving at the house, thirty-six hours after the accident, found the patient in bed, with left limb shortened one-half inch, strongly everted, or rotated outward, but hanging parallel with the other when she was standing, the right foot being a little in advance of the left. The head of the bone could be seen and felt below and to the inside of the anterior superior spinous process. The trochanter major was turned back, and there was a deep de-

pression over it. This was easily made out, owing to the patient being a spare woman and not very muscular. The limb could be slightly adducted, but in all other directions it was immovable. After several ineffectual attempts at reduction under ether, it was finally reduced by simple extension. Dressed with a spica bandage and placed her in bed with knee slightly elevated. Removed dressing at the end of one month, at which time patient sat up, and continued to improve rapidly. Perfect recovery.

Malgaigne affirms that the head of the femur in this dislocation is situated external to the anterior inferior spinous process, and this, with the rigidity and position of the trochanter and head, will usually render the diagnosis clear. Dislocations of this character are very rare, and when they do occur the upper portion of the capsular ligament has been completely torn from the margin of the acetabulum, and the head has been permitted to ascend until arrested by the under surface of the ilio-femoral ligament.

CASE IV.—Mrs. G.; æt. 52; mother of five children; has been an invalid for the last six or eight years. Fourteen months ago she noticed, in addition to her other ills, a small lump in the left breast, and appearing like one great mass of broken-down tissue, the size of a dinner plate. The glands in and about the axilla were much enlarged. February 20th she was anæsthetized, and the entire breast, including the large ulcerated surface, was removed, and the axillary and cervical glands cleared out (Kocher's method). She was prepared for the operation in the usual manner, the axilla shaved and cleaned, and the arm adducted from the side. The incision was an elliptical one, running upward and outward to the axilla, and including the diseased area of the breast; then carried up along the border of the pectoral muscles to the axilla. Owing to the shape and location of the breast, this allows a greater amount of skin to the immediate apposition of the edges of the wound. I made my lower incision first, as is advisable, and reflected a flap of skin and subcutaneous tissue from off the gland until its margin was reached and the edges of the pectoral exposed. The upper incision was similar to the lower.

Having accomplished this, with a scalpel I set the whole structure free, except at the upper and outer angle; this part must be carefully preserved, as it contains the greater part of the lymphatics and acts as a guide to the axilla.

I controlled all bleeding points by applying small catgut ligatures. Examined the surface carefully to see that all the glands had been removed.

Having completed this step of the operation, proceeded to carry the incision along the lower border of the pectoralis major up nearly to the biceps, dividing the fascia, and cleaning out the contents of the axilla. Finding trouble in accomplishing this, I divided the pectoralis major and minor at their insertion. The large vessels and nerves I protected by passing a ligature beneath them, having this held by the assistant, and not tied. Hæmorrhage being controlled by ligatures and hot towels, I brought the arm down to the side and proximated edges of wound with strong catgut sutures, finding it unnecessary to place drainage tubes.

I much prefer such wounds to heal by first intention; and if one uses a drainage tube he cannot expect such results. The process of granulation is very tedious in such cases.

Dressed wound with a dry antiseptic dressing, supporting the elbow by fixing the arm to the side, hand across the chest. Removed the dressing, on the eighth day, to find all in the very best condition, and union by first intention. Stitches were removed at the same sitting. Not a single drop of pus could be collected, and at no time was there any rise in temperature. Redressed every other day for a fortnight, at the end of which time she was discharged cured.

The time being so limited since the operation, it is quite difficult to state definitely the final outcome of all such cases, as the prognoses, as a rule, are bad.

Case V.—Mrs. R.; æt. 56; mother of six children. For the last ten years has had unusually good health. Some eight months ago noticed a small tumor in the left breast, somewhat nodular and hard, but having, at times previous to this, similar growths about the glands of the neck; paid but little attention to it at the time. As time passed, it became painful and much enlarged, and very angry-looking over the surface. Up to the time of consulting me, it had not discharged any fluid, nor had it involved the axillary glands.

On manipulating I found it to be quite movable, but causing much pain. Seeing her for the first time, March 10, 1896, advised an operation, pronouncing it carcinoma of the breast, diagnosis confirmed by the use of the microscope.

Proceeded to operate as in Case IV., with the exception of not interfering with the axillary glands. Made the elliptical incision and removed the entire breast *en masse*. Controlled the bleeding points by ligatures and heat. Used no drainage and dressed dry.

Dressing removed on the eighth day to find all doing nicely, with

the slight exception of two small stitch abscesses, which closed by granulation in a fortnight. Removed stitches at the same time. Temperature never exceeded 99 degrees. Dressings were renewed every other day for two weeks, at which time she was discharged cured.

Drainage used in fresh and healthy wounds of any part of the body constitutes, in my opinion, very bad surgical practice. The average drainage tube in use at the present day (matters little of what material it is made) is nothing more than a thorn thrust into a wound to produce irritation; an avenue and byway for the entrance of fatal bacteria, producing the bad and serious results which we so often experience, especially in intra-peritoneal work. Of late I have discarded all form of drainage where the wounds are fresh and free from pus cavities or septic fluids.

CASE VI., aet. 61, January 25, 1806, consulted me in regard to trouble about the rectum. Complained of severe pain at each movement, and especially on sitting down. Bowels badly constipated; constant discharge from bowels of mucus and blood; cramps in limbs and feet. She was in this condition for two years previous to my examination. On examination found a large fistulous opening extending back from the perinæum midway between anus and coccyx, and up into the bowel three inches, making a complete fistula, with the entrance into the bowel badly ulcerated. Opened by cutting through the sphincter ani and the entire mass, and dissecting the diseased tract of its pyogenic membrane. Having completed the dissection, irrigated freely with a Boracic acid solution, controlled all bleeding points, which at times are rather profuse in this region of the anatomy.

Carefully and neatly coaptated the walls with a submucous stitch of fine catgut, being careful not to pass the needle through the mucous membrane at any point, keeping it confined to the submucous tissue close up against the mucous membrane. Divulged sphincter ani thoroughly before beginning the operation, and thoroughly cleansed bowel as one of the first steps of the operation.

Following the operation I locked the bowels by the use of Opium suppositories for five days, at the end of which time I have them moved by a free laxative and a warm enema of flaxseed water. Dressed with a dry dressing, and found union by first intention on fifth day. Discharged patient cured on the tenth day.

CASE VII.—Mr. C.; aet. 41. His attending physician, on examination of the rectum, discovered a fistulous opening from which he

had suffered for over a year. It was similar to the one just described in all of its particulars as to depth and size. Having had him prepared in the usual manner for the operation, opened through sphincter ani and mass, dissecting up the tract, and closed with the subcutaneous stitch, using catgut. Complete union at the end of ten days.

I am happy to relate that in both cases they had, from the beginning of convalescence, complete control of the sphincter ani. I used two deep stitches in coaptating the sphincter muscle.

This I think to be the ideal operation of all such cases; providing you do not get union by first intention, you have a good healthy surface to granulate. It is expedient, easy to perform, and brings about the desired effect; and causes rejoicing on the part of the patient, who but a fortnight previous to the operation was a sufferer without release.

CASES.—Under this heading I will mention my treatment of specific urethritis complicated by stricture in the male urethra.

It consists of a rather rapid method, by use of the steel sounds and galvanism, passing from No. 4 French to No. 20 at one sitting, and repeating the treatment every five days; 4 per cent. solution of cocaine being used as an injection previous to the seances.

During the periods intervening I have my patient irrigate the urethra morning and evening with a Boracic acid solution, using a recurrent male catheter, following this up with an injection of a 20 per cent. solution of Ichthyol.

Closely adhering to this method of treatment, I have never failed to bring about a permanent cure, nor have I had a single case of orchitis or urethral fever following. All discharges cease within a fortnight or a month after the beginning of the treatment. This mode of treatment applies well to all forms of stricture, either traumatic, specific, or congenital. In a few cases in which the discharge continues for some time, I resort to a deep urethral injection of from three to five drops of a 20 per cent. solution of Argentic nitrate, repeating it every six days for three treatments.

The case of condyloma of the buttock was of an enormous size, the largest I have ever seen. The surface was the size of a large coffee saucer, elevated to the height of two inches. I amputated, and permitted wound to heal by granulation. Recovered rapidly.

In conclusion, I wish to state that my object is not so much to describe strange and unusual operations, as to classify various cases of these operated upon, which occur frequently in practice, giving

treatment and results, as to determine what methods have, in my own experience, proved most efficient.

My favorite suture in all operations is catgut, when properly prepared and perfectly aseptic. In both the major and the minor operations I use it exclusively.

Bergmann and Kocher regard catgut ligatures prepared aseptically as unquestionably superior to all others in use, and advise their universal adoption.

I am happy to say that out of the 144 cases operated upon and treated surgically, there was only one death, the remaining 143 recovering uneventfully. The fatal case was due to surgical shock, the result of an abdominal hysterectomy for a fibro-cystic sarcoma of the uterus. The patient, æt. 52, survived the operation twenty-four hours.

The Present Status of Craniectomy for Epilepsy.

By De Witt G. Wilcox, M.D., Buffalo, N. Y.

The humanitarian nature of the physician would of itself stimulate him to the exercise of his best powers, to seek a remedy for that most dread and horrible disease—epilepsy.

From the time of Galen and Hippocrates to the present era, the physician, in a blind, groping way, has been endeavoring to find something tangible to lay hold upon, cast out and thus destroy the evil spirit.

When we know positively what epilepsy is, what the true pathological condition is, we shall be in a better situation to consider the treatment. To any one who has made a careful study of this affection, it becomes apparent that it is not only an essential disease in itself, but is also a symptom or a manifestation of a large variety of pathological conditions, which directly or indirectly afflict certain cortical centres. It is not safe or wise to treat all cases of epilepsy upon one particular line, even though there is a similarity of local manifestations. Each case must be considered by itself, and if we are looking for genuine idiopathic epilepsy, we must exclude such factors as are in the least produced by remote causes. These are the mechanical causes, as we might properly designate them: old fractures, osseous hypertrophies, tumors, old meningeal hæmorrhage, etc. These are quite easily overlooked, as there may be such meagre details of early injury as to quite obscure the facts.

Next, we have to consider toxic conditions, such as auto-toxæmia and alcoholism. Then come the almost endless reflex causes, genital, nasal, dental, ocular and gastro-intestinal. I was not a little surprised recently, when reading one of the standard medical journals, to find the statement by no less an author than Dr. Frederick Peterson, wherein he says: "I do not remember to have seen among several thousand cases a single one of genuine reflex epilepsy, one that could be proved to be such by the best test of all, a cure under proper medication or surgical procedure." If that be true, and I am coming to believe that there is a very large element of truth in the statement, then all of our attempts to cure this disease by oöpho-

rectomies, amputations of the prepuce, hysterectomies, rectal mitulations, have been of no avail. Let any sober-minded surgeon with a genuine desire to get at the truth for the truth's sake, sit down with his case-book before him and count up just how many cases of epilepsy he has cured, *real cures*, that have not relapsed in three months or six months or one year or two years, and I am afraid he will in those sober moments, when he is not bouyed up by the exhilarating wine of enthusiasm, admit to himself that they are very, very few. If, then, it be true that there are but few genuine cases of epilepsy caused by reflex irritation and comparatively small number caused by traumatism, what, then, is the cause? Dr. Peterson, than whom none has given more thought and research to the causative etiology of epilepsy, says: "Nevertheless, after the most searching investigations, we shall find in the vast majority of cases of epilepsy no cause whatever."

I now come to the real subject of my paper. Does craniotomy give any permanent relief? The answer to this question must be based entirely upon clinical evidence, theory plays no part in it whatsoever. The fact must be borne in mind, as upon this will depend our prognosis in every case, that the older the disease and the more frequent the attacks, the more firmly will be the establishment of the epileptic habit, and consequently the less liability of a cure. It must also be borne in mind, that even though the exact cause be ascertained in a given case, and that cause be absolutely and permanently removed, we may yet fail utterly to cure our patient, simply because the epileptic habit may have become so strong, and the changes in the brain so old and deep, that no treatment or procedure can restore such changes. It is therefore self-evident, as has been proved by clinical records as well, that those cases wherein the epileptic habit has been caused by recent injuries, and such injuries have produced a direct mechanism-pressure, the greater will be the chance of permanent cure. In such cases, it has been estimated by carefully-selected records, that if one hundred such cases were operated upon by trephining and ablation of the morbid tissues, about 75 per cent. of them would be cured. But unfortunately, as just stated in the opening of the paper, this class of cases comprises but a very small percentage (1 per cent. it is estimated) of the number of epileptics, and cannot therefore be taken as any index of the curative value of craniectomy. In another class of injuries, not recent, and yet wherein the establishment of the epileptic habit dated from such injury, we may expect a cure in about four

out of every one hundred cases. Then there is a much larger percentage of cases of epilepsy caused by old meningeal hæmorrhage, congenital or acquired in infancy, giving rise in addition to epilepsy, degrees of paralysis, idiocy, or other cerebral symptoms, and presenting upon examination brain atrophy, sclerosis, tumors, and other abnormalities as a result of the primary lesion.

These are, perhaps, the class of cases which fall into the hands of the surgeon in the course of years, and upon which he will endeavor to decide as to whether he will obtain any results should he operate. Should I undertake to answer the question for the surgeon, I should make answer, after a careful and sober-minded scrutiny of my own cases, and the published records of men who have done any extensive work in this line, by saying, unhesitatingly, you will get no permanent benefits whatsoever by craniectomy in this class of cases. Again, we see a class of epileptics where we find, upon a trephining, a well-defined cicatrix upon the cortex, which presumably is the epileptogenic nidus. While there is but little difficulty in removing this cicatrix, yet the impossibility of gaining a healing without the formation of a new cicatrix prohibits the expectation of a cure in such cases.

The foregoing comprises in the main all the causes which form any excuse or promise for craniectomy. The general practitioner as well as the surgeon has discovered that any pronounced change in the patient's habits or environments will for a time cause a cessation of the attacks, and it is doubtless due to this fact that many a surgeon recorded cases as cured when three or four months had elapsed without a seizure. No case should be regarded as cured unless freedom from attacks has been observed for at least two years.

In appending the recital of a few cases I do so, first, to illustrate the apparent causes as discovered by craniectomy; second, to show the uselessness of operating; and third, for the purpose of recording such cases. A young man of 22 years received into the side of his head at the anterior parietal region, and following the parieto-occipital fissure, a load of buckshot from the accidental discharge of a gun. A piece of the skull, one by two inches, was removed in the course of time, and the wound healed. Two years from said injury he came to my hands with a well-established epileptic habit. There was no osseous protection over the seat of the injury. It was clearly a case with traumatic origin. I dissected the adherent scalp from the cicatrized cortex, removed two buckshot, and replaced

flap, but endeavored to prevent adhesion to the cortex. No attacks for two months (had been almost daily); gradually they returned. Was again operated upon in New York—same result—is now a confirmed epileptic.

Two cases of children, confirmed epileptics, trephining showed no apparent cause; one had no attacks for a year; has had less since then than before operating, but is not cured; second not benefited. The following is a case of rare interest. Mr. M., aged 45, farmer, ordinarily good health; mother died of cancer. Three months previous he noticed his left arm did not respond to nervous impulse as normal. Two months later began having severe headaches, with almost total loss of power in left arm; a week later left leg was afflicted. At that time there was no choked optic disk or other index of optic neuritis. A week later there was marked choked disk and ankle clonus, which did not exist previously; patella reflex exaggerated. There had been no well-marked epileptic attacks, but slight seizures, in which he would turn or fall to the left. The compressing power of the left hand was fifteen pounds, that of the right hand thirty-five pounds; no impairment of intellect; pain intense on right side of head. Upon consultation with ophthalmologist and neurologist, the diagnosis of tumor of right arm and leg centre of cortex was diagnosed. Upon opening over that centre, a well-defined tumor presented just beneath the dura. It was removed with some difficulty, owing to hæmorrhage; this I controlled by passing ligatures, armed with needles, underneath the vessels, and thus ligating them. His recovery showed marked improvement in leg and arm movements. In two weeks he became worse, and died a month after operation. The autopsy revealed six sarcomatous tumors in the right brain, varying in size from a walnut to an orange.

Strange to say, in two months a case so similar to the one just mentioned came to me that I need not detail the history. There was, however, in addition, total blindness and partial deafness. A similar operation revealed a like condition, but smaller tumor. She died in three weeks, not having shown any marked improvement by the operation. In both these cases it must be stated that death did not result from surgical causes.

The next case was one of those delusively encouraging kind, which show such brilliant cures that the operator, in his first gush of enthusiasm, can write volumes upon the cure of epilepsy. But just about as his volumes are going to print he learns his patient has not stayed cured.

A young man, 26 years old, began to have attacks in childhood. When I saw him six months ago the seizures were almost continuous and were of the true Jacksonian type. Both memory and speech were badly impaired. An opening was made just forward of the Rolandic fissure; a very unusual pressure was manifest, so that a large area of bone was removed. The improvement for three months was something marvellous; not one attack, speech almost perfect and memory but scarcely affected: then one attack, then another, and to-day there is but little manifest change as compared with former condition.

The last case is one of twenty years' standing, in a man 47 years old. No attacks till after he was struck in the right occipital region by a horse's hoof. The seizures have gradually increased in frequency till at present they are daily. As the nature of the attacks did not indicate pressure or injury in the occipital region, I determined to trephine at a point diametrically opposite in the cerebrum, where we might look for the lesion if there had been much concussion at the time of injury. There was little appearance of pressure upon removing the bone, and dura was not incised. He recovered rapidly from the operation and, like the preceding case, showed temporary improvement, but at this writing he has relapsed into his former epileptic habit.

It is possible that we shall yet find surgical measures that will bring relief to this most unfortunate class of human beings, but from the light of the work done in this line and the results obtained, there is but the faintest encouragement to continue performing craniectomies for the cure of epilepsy. Perhaps when the veil has been a little more withdrawn, and we get a longer glimpse of the occult science of telepathy, spiritism, magnetism and such influences as govern nerve impulses and nerve impressions, we shall understand how to avert the transmission of such psychical influences from parent to child as cause a disturbance of that delicate balance of nerve centres whose equilibrium is health.

Deductions From Appendicitis Cases.

By J. K. Sanders, M.D., Cleveland, Ohio.

It is necessary to offer an apology for the discussion of so trite a subject as appendicitis, especially where such discussion is based on so limited an experience as is the foundation for the present paper.

One of the proofs that the treatment of appendicitis is still one of the topics in surgery which has not reached that realm which might be called classical, is shown by the recent revival of the discussion of this subject in the medical journals for the last few months. A report of another one hundred cases by Morris with its brilliant results, seems to have instigated a number of reports on the part of those who do not favor operative interference to an equally telling report of cases. It is, therefore, with less hesitancy that this slight contribution to the subject is presented, which is based on personal observation of twelve cases within the last eighteen months.

Being more and more convinced with every case which comes under investigation, that an operation is much less dangerous than the expectant treatment, even a feeble word should not be withheld against this immediate agitation, especially as it is being discussed so extensively at the hands of the laity, and editorially in the daily papers, that it will certainly be the means of losing a good many lives.

There is no doubt but what there were just as many cases of appendicitis in former years as now, and there are certainly fewer deaths from the same cause, and yet the percentage of cases operated upon is certainly increasing every year. The surgeon is called in to say whether or not an operation should be thought of, where a few years ago the attending physician would not have thought of it as a possibility. There are certain localities where public opinion has been prejudiced against operative measures by operations on appendicitis cases, where the diagnosis was not made early enough, or where the consent to an operation was not given until too late, and in these communities the percentage of deaths from appendicitis is certainly much higher.

Another excuse might be, that it will be of service to others to

know that methods that have been tried often and most extensively by operators, with most astonishing records of successful cases, do not, with every operator, work in the same way. There cannot be a cut-and-dried rule as to the details of operation. With almost every case the operator is confronted by emergencies absolutely unexpected, where the detail of the the technique of operation has to be considerably modified. Basing these conclusions on a series of cases which were reported before the State Society of Ohio, at the last meeting, I venture to sum them up without restating *in extenso*.

As far as the *etiology* of the cases reported is concerned, it may be of interest to mention one case in which an enterolith was found, impacted about an inch and a half from the free end of the appendix with an abscess, and almost complete gangrene of the distal end. The enterolith measured three-eighths of an inch in its longest diameter and a quarter-inch in shorter diameter. On cross-section it proved to have as a nucleus a small seed. There was an ounce of pus with only a history of forty-eight hours' pain, no chill, and temperature not above 101. Sharp pain in the side came on immediately after an attempt to lift an unusually heavy trunk. The probabilities are that the enterolith was lying loosely in the appendico-cæcal junction, and by the sudden lift was forced down into the appendix, where the pressure was so great as to cause the cutting off of the circulation, with the consequent symptoms.

In another case the appendix was perforated, accompanied with abscess formation which contained about three ounces of pus. At the point of perforation there was a small bundle of little seeds, the mass together forming a bunch about one-fourth inch in diameter. It seemed to be what might have resulted from the disintegration of a raspberry, the pulp being gone and leaving only the seeds in a cluster.

In one case the appendix was involved with an inflammation of the right ovary, so adherent that it was necessary to remove the ovary. The primary inflammation had been in the appendix.

In one case the appendix was in an abscess cavity in which was also a sloughing, non-descended testicle, in which an orchitis or epididymitis had been brought on in connection with an attack of gonorrhœa. Two months previous, however, the patient had had a so-called attack of typhoid fever, which from the subsequent developments proved to be an attack of appendicitis. Cases of monorchidism of course are extremely rare, so that a surgeon's practice

might cover but few like this. Yet the experience of this case has caused apprehension in regard to another young man, who has an undescended right testicle, with a history of three or four attacks of "colic," where otherwise an operation would not have been thought of without some inflammatory complication.

As far as *diagnosis* goes, there may be nothing that would be considered at all unusual, because mistakes are occasionally made even with the best of diagnosticians. Bimanual examination *per rectum* and over the abdomen is considered by Fowler as being of very little assistance in diagnosis. However, even with the number of cases here cited, it was found in almost every one a considerable aid in coming to a conclusion.

Recurrent appendicitis in the female was shown to be aggravated to such a degree at the menstrual period as to deceive a very good diagnostician, and which lead him into operating for endometritis and possible pyosalpinx. It was operated upon three months later, and an enlarged, inflamed appendix was removed.

One case was of interest because the diagnosis was made of appendicitis, but proved to be a pyosalpinx, in which the omentum was extensively adhered, and drew down over the cæcum with so much tension that on manipulation it seemed as if the cæcum and appendix were a portion of the tumor which dipped down into the pelvis. In this case the greatest point of tenderness seemed to be at about MacBurney's point. Here was inability to force down the limb in complete extension, and other classical symptoms of appendicitis.

In an article in a recent number of the London *Lancet*, by Herbert W. Page, he reports a case that very nearly resembles one of my own, which has not been reported. It was one in which there was absolutely no pain in the iliac region. Pain started in the epigastrium and remained there during the entire attack. The symptoms of peritonitis followed rapidly, so that at no time until after the administration of ether had there a thought been given of trouble of the appendix.

In conclusion he goes on to say: "The aphorism in regard to hernia, 'When in doubt, operate,' may well give place in cases of serious abdominal disorder to this, 'When in doubt, think of the appendix.'"

He also cites a case in which a general anæsthetic assisted materially in the diagnosis. It was intended to call attention to two cases where no localized swelling or tumor could be made out on

account of the general tympanitic condition, excessive tenderness of the entire abdomen, and also the reflex irritation of the recti muscles. In these cases, after chloroform, the characteristic swelling of appendicitis could be made out.

Technique.—After using the incision parallel to the rectus muscle and also the oblique incision, the conclusion has been reached that with the majority of cases it is much better to employ the oblique.

Where there are unmistakable signs of suppuration and where the opening of the sack threatens the contamination of the entire peritonæum, a careful packing with long strips of iodoform gauze, folded in on the edges, has often assisted in preventing what seemed "a foregone conclusion." Then by washing out the abscess cavity and the temporary sack formed by the iodoform gauze, with a 1–1000 solution of bichloride of Mercury, and then thoroughly drying before removing the outer packing, complete sterilization of the field of work can be accomplished.

The question whether to use irrigation in the peritonæum will be perhaps settled by each individual operator for himself. As a general statement, experience here offered has been that the less irrigation the better the patient does.

By keeping the seat of operation dammed off from the general peritonæum very thoroughly with the packing, the necessity for irrigation is minimized. When the rupture has been inadvertently made before the packing could be done, large quantities of sterilized water are used. The abdomen and pelvis are dried with strips of sterilized gauze, folded in on the edges, and carried in on sponge holders, leaving them in position for a few minutes, and carrying them in different directions, so that they will draw out the residual fluid quite rapidly, and in that way not waste much time in swabbing it out, and without the necessity of keeping the patient on the side for any length of time, which is often the aggravating cause for a fit of vomiting, which is so undesirable. The drain is always left in for twelve hours where it has been necessary to use the flushing.

The method suggested by Fowler of invaginating the stump, after amputating the appendix, and using cauterization by fuming Nitric acid, is certainly one of the best procedures where time is not a consideration. There are cases, however, where the added safety from this manipulation would not be great enough to balance the risk of the delay in closing up the abdominal cavity. Even where limited as to time, the stump was touched with the Nitric acid in these cases.

In one of the cases where a subsequent laparotomy was done, it was found that the cæcum at the point of amputation was entirely free from adhesions to the bowels or omentum, and in that case Nitric acid had been used and the stump was not entirely invaginated.

The use of the gauze drain, which has been so scathingly denunciated in an article by R. T. Morris, in the *American Medico Surgical Bulletin* of May 9th, calling it "Taxidermy," has caused no trouble that he complained of. It is seldom necessary to leave them in long enough to get very much adhesion to the peritonæum, and in most nervous and sensitive patients there has never been much trouble in removing them. The use of the 5 per cent Iodoform gauze is preferable to the use of plain sterilized gauze, as it seems to do better. His suggestion to place a small piece of mackintosh or rubber tissue around the wick drainage, which he uses, has been many times applied around the Iodoform gauze in the incision in the abdominal walls. It makes it much easier to remove and is less likely to hurt the patient.

There has been no ventral hernia where the suture was used described in Fowler's work on *Appendicitis*, recalling the mattress stitch by Marcy, in his text-book on *Hernia*, and in several cases where it was used there was unusual abdominal walls, with a great deal of adipose tissue, as well as a very heavily-developed muscle. Very little inconvenience has been caused by the T-shaped incision where the adhesions were very extensive and the appendix in an unusually deep position when using this stitch. Time is certainly saved by its use, instead of having three separate layers of sutures, and with fully as satisfactory results. The peritonæum is included in the first portion of the suture, and there has been no cause for regret in any case.

Kangaroo tendon, if it could be uniformly well prepared, is one of the ideal materials for this particular stitch, but in a number of cases silkworm-gut has been substituted and there has been no trouble whatever in its removal. Where drainage is used, the mattress sutures are made closer together at the lower portion of the incision, or wherever the drain is left in, and placed at the time of the operation. The suture is easily tightened after the removal of the drain, and there has never been occasion to use an anæsthetic at that time, since using the mattress stitch. On making tension on both ends of the suture, the principal pressure seems to be in the muscle, layer after layer, and comparatively little tension is

brought to bear on the skin and subcutaneous tissue, so that the pain is much less than an ordinary suture causes.

It is oftentimes surprising, the manner in which nature had apparently made effort to protect the infection of the peritonæum, but in all cases the patient was much safer to have had an operation rather than run the risk of nature continuing the conservative process in any subsequent attack, to which every case not operated upon is much more liable.

When compelled against one's better judgment to defer operating, or not to operate at all, it is well to warn the family and friends, and even the patient himself, that the patient is running a very grave risk, and let them take the entire responsibility.

Current Opinion as to Catgut.

By Charles Woodhull Eaton, M.D., Des Moines, Ia.

Not forgetting silkworm-gut on one hand, and kangaroo and ox tendon on the other, it yet remains true that the two representative materials for sutures and ligatures are silk and catgut. Silk is non-absorbable and permanent. Catgut is absorbable and temporary. Where must I use the one? Where must I use the other? And where is it simply a matter of individual choice which of the two I use?

These questions, while mechanically insignificant, are surgically paramount. And it is difficult for those away from centres and their clinics to keep themselves informed as to recent experience and current usage in this matter of detail. We ought to get this information from the newest works on surgery, but, unfortunately, we do not. The current Homœopathic work is the text-book. The current Allopathic authority is Dennis. Both of them merely say ligature this or suture that, omitting all remark as to the kind of material which should be used. The fact that we get no light from either of these works leads me to take up the subject.

Silk is an ideal material, with two exceptions. First, it readily absorbs infectious matter from the tissues in which it is placed. Second, being non-absorbable, it must, in most instances, be ultimately removed. The great exception to this rule is found in abdominal surgery. The remarkable ability of the peritonæum to take care of silk is well known, and all operators leave silk ligatures in the abdomen freely, their permanent retention causing no disturbance in the great majority of cases, though post-operative fistula through the abdominal wound, by means of which these ligatures are discharged, is by no means unknown. It is a fair statement of the case to say that the insuperable objection to silk is that it is non-absorbable, and hence all the sutures and ligatures made with it, outside of the abdomen, must be subsequently removed.

This fact was not of great importance in the days when surgery looked with satisfaction upon "laudable pus," during the continuance of which the non-absorbable silk ligature could come away.

But when pus ceased to be laudable, and antiseptic surgery demanded the immediate union of wounds, the need of an absorbable animal ligature became imperative. The search for it has been eager and sustained, and numerous substances have been the subject of experiment. As the result of this great aggregate of labor on the part of surgery's best men, catgut stands before us the representative absorbable ligature. To a study of this material, I venture to invite your attention.

The manufacture of these gut strings (which, as every one knows, are made from the intestine of the sheep) is set out in full in a recent consular report made to the government. A copy of this report in full is herewith appended as Exhibit A; while for the sake of brevity we pass immediately to the consideration of the finished ligature.

Catgut is immensely desirable because, being absorbable, the suture and ligature made with it require no further attention, and may be left anywhere to take care of themselves. Why, then, is it not universally used? Why has it not superseded all other ligatures? For two reasons. *First.* It can be depended upon to maintain its function for only a brief period, because of its rapid absorption. *Second.* Its liability to invite suppuration through incomplete sterilization. Of these two objections the first, namely, the brief life of catgut in the tissues, weighs heaviest with most of us. That the ligature around the cut end of an artery will soon be absorbed; that the sutures approximating surfaces we desire to have firmly united will soon disappear—these are things we instinctively dread, even though experience has shown this dread to be needless. The second objection, that of imperfect sterilization, though it does not so easily alarm, is much the gravest. These two objections are the very core and essence of the whole subject, for they are the sole obstacles to the unlimited use of catgut. Let us proceed, therefore, to take up each of the two in detail.

I. *The limited time it maintains its function, because of absorption.* Evidently, the function of any absorbable ligature is subject to a time limit. We do not want it to remain indefinitely. We want it to disappear. The real question is, Does catgut let go its hold *too* quickly? Is its action *too* brief? To answer these questions, we must first determine how long it is necessary for ligatures and sutures to remain in force. Ligatures are used mainly to control hæmorrhage. How long must the cut end of an artery be held by its ligature before it is safe to trust it without further constriction?

I shall not attempt a dogmatic answer, and, besides, the size of the artery is a large factor. But vaginal hysterectomy has taught us that it is safe to release the uterine artery at the end of forty-eight hours. That so large a vessel can be trusted at the end of two days is a forcible reminder of how easy it is to get exaggerated notions of the length of time it is necessary for a ligature to continue its constriction.

Passing from the ligature to the suture, it is more difficult to deal with the time question, because the period during which coaptation should be artificially maintained varies so widely. It is subject to all sorts of modification according to the tissues involved, the nature of the wound, the purpose in view, and a dozen other circumstances. But with the suture, as with the ligature, we are inclined to exaggerate the length of time necessary. Who of us is not tempted to leave the sutures of a laparotomy longer than the best interests of the wound would dictate? It is worthy of note also that the catgut suture may be reinforced, if necessary, by an occasional retaining suture of silkworm-gut or silk. Two of our best surgeons, whose letters are before me, speak of employing this expedient.

Again, it is to be noted that treatment with chromic acid or bichromate of potassium hardens catgut, and renders its absorption much slower. This chromatized gut may be obtained of any reputable dealer, and the length of time it maintains its function would seem to be sufficient to satisfy the most timid. But this chromatizing is hardly necessary. I am struck with the fact that those making the widest use of catgut scarcely mention it at all.

In short, whenever the matter is really put to the actual test, the notion that catgut is too quickly absorbed is not sustained. When such authorities as Thomas and Mundé lay it down that a catgut ligature around the pedicle of an ovarian tumor "will retain its constricting force for at least a week, which is much longer than is necessary,"* it would seem fair to dismiss the fear of too early absorption.

II. We turn, then, to the one remaining objection, namely, *Its liability to invite suppuration through incomplete sterilization.* Here we have a matter of the greatest importance. Every one knows that in the process of its manufacture catgut necessarily becomes infected with countless swarms of bacteria. Can these be unerringly de-

* *Diseases of Women.* Sixth edition, page 732.

stroyed, so that the ligature shall be uniformly and absolutely sterile? This is the crucial question. The place of catgut in our surgery depends upon the answer. So clearly have all seen this to be the case, that the history of catgut in surgery is simply the history of attempts at its sterilization. "Since the introduction of catgut as a practical suture and ligature material by Lister, many articles have been written for and against its use, and numerous methods of sterilization have been proposed. That many of these methods are unreliable is shown by the outbreaks of infection which have been traced either by direct bacteriological investigation or by the strongest circumstantial evidence to the catgut used in the cases.

"At least three serious outbreaks of infection in surgical cases have been attributed to catgut. The first occurred in 1879 in the service of Zweifel, which was certainly traced by Koch to the suture material by a careful bacteriological study. The urgent protest of Zweifel against the use of the Lister method of sterilization by carbolized oil caused many surgeons to abandon catgut.

"Kocher, in 1881, after a very superficial study of the germicidal power of juniper oil, introduced it as a sterilizing medium. Later, a larger number of cases in his hospital service became infected, and Kocher, feeling that he had such strong evidence against the catgut employed in the cases, published an article against its use in any form, entitled, 'Fort mit dem Catgut!' (Away with catgut!).

"The most perfect means of sterilization for surgical purposes is unquestionably heat. Until 1888, when Benckisser and Reverdin brought out independently of each other similar methods of sterilization by dry heat, it was considered impossible to raise any form of animal ligature to a temperature sufficient to render it sterile without making it brittle.

"Reverdin demonstrated that it was not the oil, as previously supposed, but the hygroscopic water in catgut, which caused it to become brittle when heated. If this is driven off by dry heat at a temperature of 70° C., it can be carried safely up to a temperature of 150° C. without impairing its integrity.

"Reverdin and Benckisser both made careful bacteriological studies of these methods, and found them to be efficient. The complicated apparatus, consisting of a hot-air oven and a thermoregulator, however, prevented their general adoption. The observations of these two investigators stimulated others in the right direction and caused them to look for a liquid of a sufficiently high

boiling-point to sterilize catgut. Brunner found that the boiling-point of xylol was 136° to 140° C., and at once adopted it as a sterilizing medium.

"This at last seemed to be the perfect method, but Krönig found spores occasionally present in catgut, which were more resistant than the anthrax spores with which Brunner had experimented, requiring a greater temperature for their destruction than that attained by the boiling xylol. After a further search, Krönig found that the boiling-point of cumol, a hydrocarbon compound, ranged between 168° and 178° C., and substituted it for xylol."*

Painstaking culture tests having shown that the cumol method gives an absolutely sterile catgut, this process has been adopted at the Johns Hopkins University. The "modified cumol method" there in use is attached hereto as Exhibit B. Catgut sterilized by this process can now be obtained from at least one of the three large manufacturers,† and doubtless will soon find its way into all surgical supply houses, as it has the endorsement of this celebrated university behind it.

In fact, the experience of the hospital of this very institution well illustrates how the use of catgut has worked its way through the stages of incomplete sterilization and discouragement to final absolute sterility and success. "In January, 1893, a very serious reign of infection occurred in the gynæcological wards of the Johns Hopkins Hospital, which Dr. Kelley believed to be due to catgut prepared by boiling in alcohol under pressure. Unfortunately the whole of the suspected catgut was used up in the last infected case, and consequently bacteriological proof similar to that obtained in Zwiefel's cases was wanting. Dr. Kelley was so firmly convinced, however, of its rôle as an infecting agent that he, like Kocher, discarded all catgut, and for the two following years used silk entirely as a suture material."‡ Then the researches of Krönig caused a reconsideration, and, it having been proved that the cumol method produced an absolutely sterile ligature, catgut was duly reinstated.

As the whole question whether catgut should be adopted or abandoned hinged upon its sterilization, it is not a matter of surprise that the methods proposed have been many, accompanied

* *Bulletin of the Johns Hopkins Hospital*, February-March, 1896.

† The three large manufacturers of ligatures are Seabury & Johnson, Johnson & Johnson, and J. Ellwood Lee Co. Most of the surgical instrument dealers have their ligatures put up for them by one of these houses.

‡ *Bulletin of the Johns Hopkins Hospital*, February-March, 1896.

by experiments without number. While the cumol process has been cited, it must not be supposed that it is the most widely used. Though supported by high authority, it must be remembered that, being still recent, and involving extended and accurate manipulation, its use is as yet limited. There are four other methods which are used extensively, and which appear to have fully established their claim that they produce a completely sterilized product. They are (1) the Bissel method, commended by the J. Elwood Lee Co., and set out in full in Exhibit C; (2) the method employed by Johnson & Johnson, Exhibit D; (3) the method now in use in the principal public hospitals of New York City, and endorsed by Seabury and Johnson,* Exhibit E; and (4) the dry method with the Boeckman sterilizer, Exhibit F.† These methods are full of interest, but time does not permit their consideration at the present moment.

"But," says some one, "while this is all very well, and while it seems established that both the fear of too early absorption and the fear of imperfect sterilization are groundless under the exercise of proper care, yet what we want to know is whether our surgeons are actually using it constantly and with confidence. We want to know if it is really being used as a staple in plain, matter-of-fact, every-day work."

This is every way a proper request. Nothing deserves to pass current until it has been to the clinical mint and received its value-stamp. And it is my good fortune to be able to place before you the actual clinical outcome. This has been made possible by the generous courtesy of our surgeons. Twenty-four of our better known operators have kindly favored me with their practice concerning catgut. Of this number twelve are extremely favorable to its use, giving it very wide application, with results which they regard as highly satisfactory. Eight take middle ground, and speak of it more moderately, but with decided approval, using it con-

* In a private letter.

† At the last moment comes a letter from our well-known colleagues, Drs. James W. and Florence N. Ward, of San Francisco, in which they say, "While abroad last winter we obtained some catgut which we have used with great success for six months." It is put out by Isidore Froger, Paris; and the cute point about it is that if not absolutely sterile *it announces that fact.* For it is sealed up in a clear and limpid bouillon culture medium, which retains its transparent clearness so long as the catgut is absolutely sterile; but if its sterilization was in the least degree imperfect, then, of course, the bouillon becomes turbid.

stantly and freely in their work. There are only four who report adversely, avoiding its use as far as possible. This actual clinical verdict is of the highest interest. Keep in mind the inevitable variation in results with different observers, which attends all experiments and procedures, and these reports become not a little remarkable. That 83⅓ per cent. of the surgeons reporting should be constant users, and cordial approvers, is a weighty endorsement. To enlarge upon its significance is unnecessary, its force is immediately apparent to you all. But I want to take advantage of this focal-point of interest to give expression to my grateful appreciation of the conspicuous kindness of these gentlemen who pushed aside their thronging cares long enough to set down what experience had gathered for them in the special field where they are justly distinguished. To them belongs the credit of having given the real point to whatever of interest may be found in this study.

Believing that the experience of the large manufacturers and dealers as to the sales of catgut would also afford a reliable indication of current opinion, inquiries were sent them. Some express the opinion that the sales of catgut are holding their own; others say that their sales of it are rapidly increasing. There is not a single house which thinks the consumption is decreasing.

I append a few practical points brought out by a somewhat extended investigation:

1. Strictly scientific and exhaustive experiment demonstrates that it is practicable to absolutely sterilize catgut. As Dr. George R. Southwick tersely puts it, "Catgut is difficult to sterilize, and requires *great care* to do it and preserve the strength of the gut, *but it can be done.*"

2. An absolutely sterile catgut can be obtained in the market.

3. Those unwilling to trust even the most reliable dealers can do their own sterilizing by methods which have been proved efficient, and yet which require no apparatus and but little time.

4. Chromatized catgut* can be depended upon to maintain its function long enough to satisfy the most timid and reluctant. Attention, however, has been called to the fact that chromatized gut is often preserved in absolute alcohol. This is presumably free

* "If it is desired to chromatize the gut, put it in a solution made as follows: Potassium bichromate fifteen grains to two ounces of distilled water, add alcohol sufficient to make a pint. A treatment in this solution for fourteen hours will cause it to resist absorption for from five to twelve days, according to size."—C. S. Fahnestock, M.D.

from objection when the gut has been prepared by the bichromate of potassium method, as this salt is insoluble in alcohol. But if a direct chromic acid solution be used, to preserve it in alcohol is an egregious blunder, for the alcohol dechromatizes the gut, with the result that it emerges with actually less endurance than it originally possessed.

5. One discomfort in the use of catgut is its tendency to become slippery from moisture. The wet hands of the operator, and the various animal fluids which may be encountered in operation, are always present to develop more or less of this slipperiness, and render the surgeon anxious lest some knot, tied perhaps down in the bottom of a difficult recess, may fail to hold. A journal paragraph states that "Dr. Cushing, of San Francisco, after rendering his catgut aseptic, puts it into a mixture of an ounce of common rosin to a pint of alcohol. He has found this mixture to preserve catgut, and to make it stick so that it will stay tied." While there has not been opportunity for personal verification, this suggestion certainly has a practical ring about it.

6. It is generally agreed that catgut should be used in operations about the anus, because of the difficulty in removing a non-absorbable suture. For the same reason catgut should be used in circumcision; in this instance the difficulty of removal being due to the fact that most of these patients are children.

7. By common consent catgut is the material for ligating arteries in continuity.

8. The testimony is overwhelming that catgut should be used for all buried sutures and ligatures. I beg you to notice how much is included under this one term "buried." It means the suturing of nerves, tendons, muscles, the tying of vessels in amputations, etc. Lack of time forbids enumeration, but the term "buried work" is a wide one. Dr. T. L. Macdonald, underscoring the entire sentence, writes: "*All non-absorbable sutures are liable to cause or invite long-continued post-operative suppuration, no matter how carefully or by whom applied.*"

9. Most operators use silk in intra-abdominal work, that is, for suturing intestines and for pedicle and omental ligation, and the ligation of adhesions. Experience of the most extensive sort has shown that silk ligatures may be left in the abdomen with impunity so far as peritonitis is concerned, although it can not be denied that occasionally they cause fistula through the abdominal wound, being finally discharged as foreign bodies. But Dr. C. S. Fahnestock

points out that silk should not be used in those abdomens which require drainage. He says: "I was led to abandon silk in drainage cases from having a fistula after such an ovariotomy, made in 1878, where the silk ligature on the pedicle was the cause of the same. Recently a case of appendicitis has a fistula from the same cause. In all abdominal work where drainage is required, especially in appendicitis and hernias, the use of a ligature that will entirely disappear saves many a fistula, where an infected silk ligature would be sure to cause one." This point is exceedingly well taken, for a drainage wound may be equivalent to an open wound, a silk ligature in an open wound is sure to become infected, and once infected it must be discharged by suppurative process.

10. As regards the great majority of operative procedures not included under the foregoing heads, operators are quite evenly divided between silk and silkworm-gut on one side, and catgut on the other. It would be interesting to take them up one by one and note what the various surgeons have to say on each, did not time forbid.

11. It is difficult to name an operation or condition where the use of catgut is not advocated by some surgeons of repute.

12. Therefore, whatever use we may make of catgut, we are not exposing ourselves in an unprotected position. There is hardly a point in the whole range of surgery where the operator will not find his use of this material justified by some of the best usage and fortified by some authoritative names.

EXHIBIT A.

Manufacture of Gut Strings in Saxony.*

The Guild of String Makers.

It is generally supposed, though it must remain a matter of conjecture, owing to the lack of information on this point in the town records, that the manufacture of gut strings was transplanted to the town of Markneukirchen through immigrating Protestant Bohemians during or soon after the Thirty Years' war (1618–1648). Some men, citizens of Markneukirchen, had acquired the trade and bequeathed to their sons the secret, for such it was considered, especially the knowledge of the component parts of the lye used to bleach the sheep gut.

In the year 1777 the union of string makers was founded, and on

* *U. S. Consular Reports*, vol. xlviii., No. 177, June, 1895, page 275.

March 1, 1781—so the venerable document kindly lent for the occasion from the town archives informs us—had a membership of thirteen, which increased to thirty-six up to December 27, 1793. To join this union, the applicant had to perform the "master" work without the least assistance, under strict surveillance of one or more of the union's members. This work had to elicit the entire satisfaction of the representative men of the union, and consisted of one bundle (thirty pieces) of E string, half a bundle (fifteen pieces) of D strings, half a bundle (fifteen pieces) of A strings and one complete set wherewith to string a violone (the largest instrument of the bass-viol kind). If this task was finished satisfactorily, the workman was accepted as a brother-member, and his former employer was, by contract, under obligation to give him a good recipe for making a bleaching-lye. This was, therefore, given to him, but, as a matter of fact, none of the masters parted with their individual secret, only leaving it, after death, to their sons or next of kin as a most valuable pledge. All inquiries made on the subject lead one to suppose that at present potassa lye is generally used, yet it is not so long ago that the apothecary of the town had a book of recipes, consisting of the secret given to his sacred charge by the several string makers. Every likely drug was tried to improve the strings, a satisfactory trial resulting in the issue of another recipe.

Similarly, every violin maker of renown has his secret, *i.e.*, a composition of ingredients whereby to impart to his violin a superior varnish, and, if a true lover of his handicraft, he will never cease racking his brain to discover what is to him the *Stein der Weisen*, for the exquisite work of imparting to the violin that imperishable varnish, so perfectly pure and rich, showing, satin-like, the beauty of the wood beneath, as did the Cremona makers of old, such as Stradivarius, Guarnerius, Amati, Rugerius, and others, is at the present day a lost art.

String making was forbidden to any one not a member of the union, not only in Markneukirchen, but throughout Saxony. The law on this point read as follows:

"Such persons (not union men) to be punished by the town council, either (1) by taking from them and retaining such merchandise and tools of trade as are found in their possession, or (2) by a fine, or (3) by imprisonment."

Apprentices had to be duly registered at the beginning of their apprenticeship, and it is significant to note, in perusing the register of apprentices for a period of forty years (1781–1821), that eight

out of ten were lads taught by their respective fathers, and the others—barring exceptional cases—were related to the employer. One of the unwritten paragraphs of the statutes of the union was the maxim, to take no apprentice from out of town. In such manner, and through privilege granted by royal decree, virtually no person could ply the string-making trade beyond the town limits of Markneukirchen until the year 1878, which brought to Germany the *Gewerbe-Freiheit*, *i.e.*, an act of the Reichstag countermanding all prerogatives whereby certain trades enjoyed privileges that restricted outsiders in the pursuit of such privileged callings.

Raw Material Supply.

About seventy-five years ago, Markneukirchen used Bohemian, Nether-Austrian, and Bavarian sheep-gut, knowing of no other obtainable. Later on, Prussia furnished a fair supply. At present, neither of the countries above-mentioned supplies raw material, because it is inferior to the imported material.

Prior to 1840 there was no export of catgut or gut strings from this district to the United States. (The name "catgut" is misleading, for all the catgut, so-called, sold in the markets for stringing instruments and for medical purposes comes from the sheep.)

In the year 1840, when Markneukirchen suffered from a great conflagration, which consumed the entire town, one string maker left his native town, and, in the course of his travels in search of a livelihood, reached Copenhagen, Denmark. Having noticed large flocks of sheep, he bought some sheep guts, made strings of them, and found them far more suitable than those he had been working into strings at home. He contracted for large delivery, and sold the dried raw material to his fellow-citizens plying the string-making trade at Markneukirchen, which had been partially rebuilt and was quickly recovering from the fatal fire. From this time dates the first shipments of strings intended for export to the United States, and the demand for the strings produced in Markneukirchen by American buyers gradually began to take such dimensions as to make the string-making community dependent on the American market, and, in due course, new establishments were started to meet this demand. This is proved beyond doubt by the fact that, whenever tariff, or other equally disastrous troubles, hampered commerce, thus necessitating a temporary discontinuance of orders from the American houses, gut strings have been a drug on the market.

The orders that followed the first exports accumulated to such a degree that for a number of years the raw material obtainable did not suffice to cover the demand for the product. From year to year men of this town left for foreign parts in the endeavor to find additional sources from whence more raw material could be derived. Since the year 1853, England has furnished a good quality in large quantities, but excelling English material, both in quality and whiteness, was the sheep gut coming from Russia, which, since the year 1861, has constituted the main source of supply.

In that year, another enterprising inhabitant of Markneukirchen (to whom I am indebted for most of this data) crossed Russia, even to its furthest eastern dominions, an undertaking which, at that time, was akin to audacity, and even at this period is fraught with peril. But the result amply repaid for the hardships undergone on this exploring trip, for that year Russia sent 75 per cent. of all the dried sheep gut imported by Markneukirchen manufacturers. At present Markneukirchen purchases annually from Russia about $175,000 to $200,000 worth of dried sheep gut; from England about $60,000 to $75,000 worth; and from Denmark and all other countries about $25,000 worth. Within the last decade material for making musical strings has been brought from Spain, Bulgaria, Turkey, Java, Damascus and Jerusalem. France fosters its own string-making trade and bids fair to be a strong competitor in cheap strings, for which, however, there are no bidders among the United States merchants. Still the lookout for other fields from whence a good quality of raw material may be had continues. This is mainly due to the deterioration of the Russian sheep gut since the Russian flock owners crossed the breeds of the Russian steppe sheep and the Spanish sheep. The crossing resulted in greatly improving the quality of wool of the Russian sheep, whereas the string product was injured. The intestine of the Russian steppe sheep, undergoing timely and careful treatment, yielded the great desideratum in a musical string—a symmetrically cylindric form, combined with a transparent, white color. This was much impaired by improving the flocks. All countries are therefore ransacked to meet the continuous demand for the best in color and quality. Nevertheless, we find that, although there is more than sufficient raw material, generally speaking, the percentage of first-quality strings resulting from its manufacture does not meet the demand. In view of this fact, it is curious to note that, with the cost of raw material and wages rising, the product is at present cheaper than ever—equally

for high-class and inferior grades. The cause of the low grade of goods selling for a mere song is evident because (1) the demand for the cheap article decreased as the good quality came down in price, and (2) there always has been and are more second and third quality strings for sale than the trade requires.

The purchaser contracts with the breeder for all the sheep gut for at least one year; he has his cleaning establishment, as a rule, closely annexed to the slaughter-house, and in person supervises the cleaning proccss, because, where this is done carelessly, the gut, though originally of good quality, can be used only for a middle or low quality of goods. Immediately after the killing of the sheep, the cleaner places the intestine on an incline plane and, by aid of a knife blade, removes all foreign substances, grease, etc. This brooks no delay and must be performed while the carcass yet largely retains the body heat, for, while cooling, the foreign matter discolors the intestine. After cleaning, the intestine is wound on frames, left to dry in the open air, and when dry, is ready for shipment.

The intestine needed for a musical string must be from the lamb, born in spring and slaughtered not later than October or November of the same year; those from the older sheep can be used only to make bass strings or for other minor purposes. The prices vary in accordance with the time of year during which the sheep was killed. Thus, the term "spring gut" denotes an equivalent to second quality, "summer gut" to first quality, and "fall gut" to third quality. The "spring gut" is only second choice, in spite of it being whiter and clearer in color than the "summer gut," because of a lack of tenacity, which is a requisite necessary, for instance, to make an E string. The G, D, and A strings made from it are excellent, both in quality and color. For these, the "spring gut" may be used because, to make either of them, a large number of parts are taken, which does away with the necessity of the special strength of each part, as is required when only three or four parts are used. The "summer gut" is chiefly used to make a good E string. The "fall gut" stands last in choice of the three qualities, although the sheep is only 6 to 8 months old. The reason is, that the sheep has gained adipose tissue; so, alsó, has the intestine, and the result is a string uneven, not over-tenacious, and of dark color.

In 1860 one *Schock* (sixty pieces) of "spring gut" cost $4.30; "summer gut," $6; "fall gut," $2.87. These prices prevailed until the year 1885. Since then the prices have ranged as follows per *Schock* (sixty pieces): "spring gut," $3.57; "summer gut," $4.30; "fall gut," $2.15.

This reduction of nearly 25 per cent. in the cost of the raw material was caused directly by workmen (string makers) who invested their savings in the purchase of an outfit of implements necessary to ply their trade on their own account. A plain outfit for one man costs about $75, machinery not being necessary. The former employé tried to supplant the quondam employer. In strong competition with each other the price of musical strings went down the more suddenly and considerably, as prior to this change in affairs the profit netted had been large, as, of course, the profit had to be fair where, usually, the largest possible quantity of production did not satisfy the demand. Again, there was always a risk involved in the purchase of the material, which, as stated above, had to be bought by contract a year ahead, and, being a "cat-in-a-bag" purchase, it remained an open question whether adverse circumstances might not bring down the price of strings or lessen the demand. Besides, to this very day, the small maker is at times forced to offer his wares at ruinous prices to the merchants of Markneukirchen, who buy up all that the house industry produces to sell again to the foreign trade, when he has, perchance, finished goods without having a given order to complete. His means are small, usually he must pay cash for his raw material, an untoward expenditure compels him to dispose of his handiwork at any rate, and, it is claimed, the merchants here take advantage of those who must sell.

Since the year 1885, as above stated, the prices for raw material have remained stationary, but the drop in the price of the product kept step with the fall shown by the barometer of trade. The commercial troubles, coupled with the unsettled tariff question of the United States, played an active part in reducing the value of merchandise in like manner as the aforesaid causes reduced exportation.

The following figures give the value in United States currency of declared exports of musical instruments and strings from the Markneukirchen district for the years ending September 30th:

1890,	$1,160,421.65
1891,	933,118.39
1892,	886,417.01
1893,	745,149.32
1894,	459,244.59

The Manufacture of Gut Strings.

The dried intestines are placed in earthen vats containing a potassa lye, where they are left twenty-four hours. After the lapse of this time they are sufficiently soaked to permit unraveling, for,

in spite of the bath, they still adhere. They are then put into a fresh potassa lye (the strength of the lye must be regulated according to the age of the sheep when killed, and must be weaker for the intestine from the spring lamb than for that from the six to nine months' old sheep). For eight days in succession the bath is daily renewed without varying the strength of the lye. Beginning from the second day the intestines undergo at various times of each day the most thorough cleaning by girls armed with the "sliming," or cleaning, iron. The intestine is nimbly drawn between the first finger, covered by a gutta-percha glove, and the thumb of the left hand, the sliming iron or ring being held with the thumb. By this act are removed the external (peritoneal) and mucous membranes, leaving only the muscular or fibrous membrane used to make a string. After the above-described proceeding has been attended to daily for three consecutive days the intestine is sufficiently fluid to be split in two parts by being drawn across a blade of a sharpness exceeding that of a razor, firmly fastened to a handle, which, in turn, is affixed to an upright. Now, the sliming is continued—formerly by hand, as on the three preceding days—at present mostly by means of a machine, which is worked like a double-action clothes wringer. Here the intestine is drawn over five upright blades, above which, securely fastened, is a twenty-five-pound gutta-percha weight that bears down on the intestine with the required pressure. Four days more of this procedure suffice to get the intestine ready for the workman, experienced in sorting the parts according to quality, thickness and length. It must be noted that there are two qualities resulting from one gut; for, on being split in two, the adhesive (inner) part is not even or smooth, and can therefore be used only for the inferior qualities. The number of parts needed to any one string depends on the thickness of the intestine; for instance, to make an E string from Russian sheep gut, four to six parts are necessary; from English sheep gut, three to four parts, because the Russian is finer than the English gut. At least three parts are taken to make a string. A violin A string is double the size of an E string; therefore, parts of double thickness are used, but the same number of parts that is taken to an E string; likewise, a D string, being three times as thick as the E string, fifteen to twenty parts of the intestine from the spring lamb are used when a fine quality D is desired, for, as has already been said, the intestine from the sheep killed in its earliest stage is too weak for an E string, but answers very well where a large number of parts are joined.

The bass strings are made from the unsplit fibrous membrane—thirty to fifty entire (unsplit) parts are taken for a G, forty-five to seventy-five parts for a D, and sixty to ninety parts for an A bass string.

The following various proceedings, up to the time when the finished strings are placed in the sulphuring chamber, must be performed on one and the same day to prevent putrefaction, and another reason for not detaining the manufacture is to have the product retain the white color, because the delay of a day would turn it gray.

The parts selected to make one string are attached at both ends to hempen loops; one of these is fastened to one of two hooks in the centre of a little wheel, stationed at one end of the inner part of a frame, the intestinal parts twisted round a fixed peg at the other end of the frame opposite the wheel, and the second loop brought back to the wheel to be attached to the second hook in the centre of the wheel. The latter is now rapidly revolved by a connecting multiplying fly-wheel, and the parts thus twisted into a string. The moisture, brought to the surface by the twisting, is removed, and the strings are taken from the frame and placed in an air-tight sulphuring receptacle, where they are left over night. On the following morning they are exposed to the air, which furthers the bleaching process, till nearly dry, when they are again slightly moistened and replaced in the sulphur bath. This *modus operandi* lasts from four to eight days, the length of time depending on the weather. If it be clear and sunshiny, less sulphuring is required. The best and whitest string, aside from the result of the sulphurous acid gases, is that which has had frequent exposure to the air in clear, balmy weather. Excessive bleaching by means of sulphur heightens the whiteness at the expense of the quality. The strings must never be exposed to the sun if the heat resulting exceeds a moderate temperature of, say, 75° F. After the bleaching, the string is subjected to a rubbing with pumice stone to bring it down to the correct size, while it removes, at the same time, any existing inequalities. The requisite polish is mainly due to frequent wipings with olive oil. Following this, they are again left to dry in the air, to be then cut, rolled and assorted according to color. Thirty strings of the same whiteness and size are made up into a bundle.

The last important work is to grade the bundles, styling them first, second or third quality. The strings are made in sizes varying from 1½ to 6 "zugs" (1 "zug" is equal in length to a full-sized

violin), in compliance with the buyer's orders. From the time that the dried intestine is first placed in lye to the time when the finished strings are assorted and ready for the market, eighteen to twenty days elapse. During this period not a day passes where the intestine or the partly-finished string is not subjected to manipulation of some sort.

It is generally supposed that a musical string loses both in color and quality if kept in stock for a comparatively short period, but while the color is impaired in the course of time, the quality does not deteriorate, provided the strings are stored in hermetically-closed cases in an even and dry atmosphere.

Italian Strings.

The Italian string is known as the best, and is best, because it is made from the entire (unsplit) fresh Italian sheep-gut, which is quite strong in spite of its thinness, and is, therefore, peculiarly adapted to be formed unsplit into the most important string of all —the violin E string. Another reason accounting for the high quality of the Italian string is, that it is made under the most favorable climatic conditions, whereas, comparing the Italian product with the German, in reference to whiteness and general workmanship, the former invariably takes last place.

The large demand for the Italian strings results in the sale of probably ten times as many Italian strings as Italy is able to produce. Markneukirchen turns out quite a lot of "Italian" strings, and, naturally, especial care is taken in their manufacture to make them equal to the best; they are put up in Italian fashion, and, at times, sold as Padua strings, Padua being the Italian city where musical strings are chiefly made. I am assured, on good authority, that Italian merchants buy strings in Markneukirchen that partly find their way back to Germany as the "only original."

The Industry in the United States.

The string-making industry in the United States is conspicuous by its absence, at least where the manufacture of a passably good violin string is concerned. Attempts have been made, but they never fulfilled the hopes of those who brought the undertaking to life; nor was the want of skilled labor the cause of the non-success, for at various periods string-makers, hired by Americans, have left Markneukirchen for the land that was formerly, to every German, the "El Dorado"—the place where wealth might be soon and easily

acquired. These men have mostly applied their trade in the United States by making gut-strings for coarser purposes.

There are a number of causes co-operating to prevent the manufacture of strings for musical instruments in the United States. From all the information I could gather, it appears that the intestine from the American sheep is not suitable material, because, from the spring lamb, it is too weak, and from the summer sheep shows a wart-like growth every three or four feet, which completely unfits it for use. Another reason is the excessive heat, which causes the intestine to ferment before it has been through the prescribed number of lye baths. But even supposing it to have come from the baths unscathed, the atmospheric heat unduly hastens the drying process, and the result is a feathery string. Even in Germany, where the temperature is always more moderate than in the United States, it happens that the intestines are spoiled owing to the heat. Another vital point is the pure well water necessary for the cleaning, which must be free of deleterious mineral or other substances. Perhaps the most cogent reason why an article that can enter the United States free of duty (where the value of said article consists, for the most part, in the expense of making it) cannot be made there, is the small amount of wages paid to the hands in Germany. Until the year 1870, it was customary to keep the employees in board and lodging; the girls received, besides, a payment of $15 to $18 per annum, and the men $30 to $40 per annum. About twenty years ago this system of giving board and lodging was done away with; since that time, and up to the present, the girls are paid, respectively, $1.43, $1.79 and $2.15 for a week's (seventy-two hours) work, $2.15 being paid to the good hands only. The workman's weekly pay ranges between $3.57 and $5, provided he is a first-class worker.

OSCAR GOTTSCHALK,
Consular Agent.

MARKNEUKIRCHEN, December 21, 1894.

EXHIBIT B.

MODIFIED CUMOL METHOD.

From the above investigation we found that it was necessary to modify the method of Krönig so as to do away with the use of benzine, as it is not a germicide and cannot be rendered sterile by heat without great danger. The following method was therefore adopted:

1. Cut the catgut into the desired lengths and roll twelve strands

in a figure-of-eight form so that it may be slipped into a large test tube.

2. Bring the catgut gradually up to a temperature of 80° C., and hold it at this point one hour.

3. Place the catgut in cumol, which must not be above a temperture of 100° C., raise it to 165° C. and hold it at this point for one hour.

4. Pour off the cumol and either allow the heat of the sand-bath to dry the catgut or transfer it to a hot-air oven, at a temperature of 100° C., for two hours.

5. Transfer the rings with sterile forceps to test-tubes previously sterilized as in the laboratory.

In making the catgut up into rolls it is only necessary to tie the ends in the isthmus of the figure-of-eight to hold them securely in proper shape.

If convenient it is better to use the hot-air oven for the drying process, but this is not absolutely essential, as a sand-bath can be improvised, as suggested by Krönig, to serve this purpose.

A beaker glass of at least a half-liter capacity is imbedded three-fourths of its height in a tin or agate-ware vessel of sufficient capacity to permit three-fourths of an inch of sand to be packed about the sides and beneath the glass.

In drying or boiling, the catgut should not come in contact with the bottom or sides of the vessel, but should be suspended on slender wire supports or placed upon cotton loosely packed in the bottom.

During the drying process the beaker glass is covered with a sheet of pasteboard, through which a centigrade thermometer is thrust so that the mercury bulb may be suspended about midway in the vessel. In this way the temperature can be regulated perfectly.

A Bunsen burner is placed under the sand-bath and the temperature in the beaker glass is slowly brought up to 80° C., where it is held for one hour to dry the catgut. A higher temperature than 100° C., before the catgut is thoroughly dry, renders it brittle; this step in the method must be carried out most carefully.

When the drying process is completed the cumol is poured into the beaker glass and brought up to a temperature of 165° C., a little short of the boiling-point, with two Bunsen burners. A copper wire netting should be placed over the beaker glass to prevent the ignition of the cumol. This temperature is more than sufficient to kill all micro organisms, and it is not necessary to allow the cumol to boil, which causes unnecessary evaporation (Krönig). The catgut is left

for one hour at this temperature, when the cumol is poured off for subsequent use.

Cumol, which is of a clear limpid or slightly yellowish appearance when procured from the chemist, is changed to a brownish color by boiling.

The catgut is allowed to remain in the sand-bath until the excess of cumol is driven off and it appears entirely free from any oily matter. A period of one to two hours is usually sufficient to dry it thoroughly.

From the sand-bath or hot-air oven it is transferred with sterile forceps to sterile test-tubes, such as are used for culture media, in which it is preserved from contamination until ready for use. Small quantities should be placed in each tube, to obviate the necessity of opening them too frequently.

In conclusion, it is well to bear in mind that while cumol is not explosive it is very inflammable, and great care should be observed in lifting the wire screen from the beaker glass to prevent drops of the cumol from falling in the flame or on the heated piece of metal on which the sand-bath rests, as it will take fire, flare up and ignite the fluid in the beaker glass. Such an accident has occurred three times in our experience.

EXHIBIT C.

In a private letter dated April 21, 1896, the Messrs. J. Elwood Lee Company say, "We would strongly recommend the method of Dr. W. G. Bissell, of Buffalo, N. Y., as we have been preparing catgut under his formula for over two years, and have never had an instance where it gave dissatisfaction." The following account of his method is from an article by Dr. Bissell, in the *New York Medical Journal*, August, 1894, he being acting bacteriologist for the health department of Buffalo.

"With the object in view of obtaining the most satisfactory method for preparing gut, not being satisfied with the results obtained by boiling it in alcohol, about a year and a half ago, during an interneship at the City Hospital in this city, I communicated with most of the large hospitals of the country, asking their methods of preparing gut and the results obtained.

"Some indorsed the boiling alcohol method, others stated that the results were doubtful, others used chemical solutions, and a few went so far as to say that catgut was no good for ligature purposes.

After experimenting with most of the formulæ furnished me (requiring a period of about eight months), I concluded that gut prepared by the following formula gave the most satisfactory results, in that it rendered the gut sterile, never destroyed its texture or strength, and required no special apparatus for its completion. The method is as follows: Place the raw gut, after removing all colored silk, string, etc., in a 1 to 1000 ethereal solution of bichloride of mercury, and allow it to remain there six hours; then wind on sterilized glass spools, and place the spool containing the gut in the same solution for six hours longer. Wash in pure ether, and then boil in absolute alcohol at the atmospheric pressure for ten minutes, the object being to remove all traces of the bichloride. Gut prepared by this method I have subjected to a thorough bacteriological test and found it to be absolutely sterile."

EXHIBIT D.*

This is a subject which has caused us a great deal of trouble and an enormous number of experiments. We presume we have made anywhere from one thousand to five thousand culture tests in order to determine the best method of producing sterile ligatures. As a result of all this experimenting, we have adopted the following method:

The ligatures are first immersed in a solution of petroleum naphtha for a period of from one week to one month, but not less than one week. Afterwards they are removed to a solution of bisulphate of carbon, and finally to ether, remaining in each for several days. We find that each operation removes more or less fatty, solid and other matter, and when they are finally taken from the ether, are practically sterile; that is, in a test covering several hundred, more or less, we have found them to be absolutely sterile; but in another lot we have found here and there one that would show some signs of growth; whether it was due to some accident in the culture process or some slight remaining microbes we have never been able to determine. In comparing the ligatures prepared by this process with those boiled in alcohol we find that they are more sterile after the first process than after the second.

In some respects the most perfect ligatures we have ever made have been those treated with formalin, as we find that it toughens

* Private letter from Johnson & Johnson, April 18, 1896.

the ligatures, makes them less liable to absorb moisture, blood, pus, etc., as the case may be, and reduces the chances of secondary hæmorrhage; but the difficulty is to treat the ligatures so they are uniform. We have not been able to determine just the strength of formula, or the proper length of time to subject these ligatures of various sizes to this chemical in order to have uniform results, consequently we have never been able to put them upon the market. Formalin seems to coagulate the albumen and render it soluble, but if left too long in the solution they are brittle and tough. We hope eventually to be able to determine just the length of time to subject the ligatures, and be able to put them on the market, as we find they are practically absolutely sterile after being prepared in this manner.

EXHIBIT E.

NEW YORK, April 30, 1896.

DR. CHARLES WOODHULL EATON,
Des Moines, Iowa:

Dear Sir: In reply to yours of the 16th inst., we state, that being in somewhat near relations with the authority having the city institutions in charge, and considering an opinion of the same upon the subject you inquire about a more valuable one than our own, we have sought information there to be supplemented with our own knowledge. It happens that the party referred to has very recently composed an article on the very subject you have written us on, and copies will be obtainable in two or three days, whereof we will mail you a few as soon as possible.

In the institutions referred to, about 350 boxes of 30 strings each (violin and banjo) are prepared and used per annum; and this aside of silk and silver-wire, represents about 75 per cent. of ligatures used, the other 25 per cent. being silkworm-gut. Kangaroo is very rarely used.

Respectfully yours,
(Signed) JOHN REYNDERS & Co.

The following is the essential part of the article* referred to by John Reynders & Co., and Seabury & Johnson, it having appeared in the May, 1896, issue of the *Alumni Journal*, which is the organ of

* From the pen of Charles Rice, Ph.D.

the Alumni Association of the College of Pharmacy of the City of New York:

"It is not the writer's purpose to give an acount of the various other methods heretofore proposed for preparing sterilized catgut. His present object is to describe those which have stood the test of time, and are now in use in the principal public hospitals of New York City.

"Before speaking of the methods of sterilizing, something should be said of the raw catgut. Experience has shown that only the very best, smooth (not rough) musical strings should be used. Under ordinary circumstances, *five* sizes are sufficient. These are violin D, A, and E, and first and second banjo strings. These come in boxes containing thirty strings, each string measuring about 45 to 67 inches in length, being separately tied with fine twine. When the latter is cut, which need not be done until after the catgut has been sterilized, care must be taken not to scratch or nick the gut, as it would become weak at that spot. Although these musical strings undergo, in the course of their manufacture from the intestines of various animals (preferably lambs and kids), a series of purifying processes, such as the removal of the adhering mucous membranes, repeated maceration in weak alkali solution, and frequent washing, yet they always retain more or less septic matter, which, if not removed or rendered inert, would be sure to cause trouble to the surgeon and his patient. Every string, moreover, before it is finally rolled up and tied, is rubbed with a cloth impregnated with some fatty oil which penetrates the substance of the gut, and renders the latter more or less impervious to the ordinary solvents. A gut, therefore, which is afterwards treated merely with an aqueous solution of carbolic acid, or with cold alcohol, with or without some antiseptic salt, is by no means to be trusted. It is essential that all fatty matter be extracted from the gut, or, at least, that the latter be thoroughly penetrated by an actual solvent of the fatty matter, which solvent will, at the same time, render permanently sterile any septic matter or germs that may be contained in the gut.

"The methods which are now almost exclusively employed in the public hospitals for sterilizing catgut are the following:

"1. Maceration in the oil of juniper (or in ether), and subsequent boiling with alcohol of 94 per cent.; thence transferring to, and keeping in, chloroform saturated with biniodide of mercury.

"2. Treatment as under No. 1, but with omission of the maceration in oil of juniper.

"3. Simple maceration for at least forty-eight hours in chloroform saturated with biniodide of mercury. The strings are left in this solution and taken out as wanted.

"Some five years ago, when the writer's attention was specially called to the necessity of devising some method by which catgut and other surgical ligatures could be rendered really sterile and trustworthy, he made a number of experiments, the object of which was to ascertain, in the first place, what processes and solvents had the least weakening effect upon the tenacity of the gut; and secondly, which of them would effectually sterilize the gut. It was thus found that chloroform, itself a most powerful antiseptic and germicide, was the most satisfactory solvent of the fatty matters in the gut. And it was further found, that complete sterility was effected by saturating the chloroform with biniodide of mercury.

"Numerous samples of the catgut thus prepared were examined bacteriologically, but in no case was the presence of any living germs revealed. At one time some years ago, suppuration was observed to set in after the use of a catgut all derived from one particular lot just imported, and it was at first supposed that this had been imperfectly sterilized. Yet, on examining samples of it under circumstances which would surely have revealed the presence of septic matter, the results were negative. Nevertheless, it is now deemed advisable to use the additional precaution to subject the catgut to a preliminary sterilization by boiling it with enough alcohol of 94 per cent. to keep it covered. This is done in a large, wide-mouthed Erlenmeyer flask, to the neck of which is fitted an upright Allihn's glass condenser (the condensing-tube of which has a number of bulb-like expansions), whereby loss of alcohol is avoided. The flask is set upon a steam-bath, and the boiling kept up for one hour. The strings are then taken out and immediately transferred to the biniodized chloroform, in which they are left until wanted. When they are taken out for use, they are placed for a minute or so between folds of sterilized gauze to allow the chloroform to evaporate. They will now be found to be beautifully clean and more or less bleached, and to have lost none of their strength. Some surgeons prefer the methods mentioned above, under No. 1, which involves a previous maceration in oil of juniper. In fact, the raw gut is put into this oil and kept therein until it is to be treated with boiling alcohol. The oil of juniper acts as a solvent of the fatty matters, and therefore may be regarded as an auxiliary to the chloroform. But it is not necessary and may be omitted.

"The biniodized chloroform or 'Chloroform with Biniodide,' as it is usually called, is prepared by adding thirty-five grains of biniodide of mercury (free from lumps) to five pounds of pure chloroform contained in a flask provided with an upright condenser, and boiling until the biniodide is dissolved, which requires about half an hour. The solution is then transferred to bottles which must be well stoppered. This solution is of the strength of 1 in 1000, and at the ordinary indoor temperature is permanent. When exposed to a temperature of about 60° F. or less, some of the biniodide will separate in beautiful red crystals, but the amount is never large, unless the liquid is exposed to great cold. This biniodized solution is at the same time a very delicate reagent for the presence of chlorine compounds existing as contaminations in the chloroform. Any one of these compounds which contain chlorine in looser combination will set free enough iodine to impart to the solution a pinkish or pink tint. The depth of this color, which is characteristic for a solution of iodine in chloroform, is in direct proportion to the amount of contaminating chlorine compounds present. Sometimes the tint is developed at an early stage, during the boiling of the chloroform with the biniodide. Again, it may make its appearance gradually. It is not believed that the presence of these contaminating bodies have any deleterious influence upon catgut which might be treated with the solution, but the writer has preferred, whenever the pink color revealed itself, to make another use of the solution, namely to recover the chloroform by distillation and to set it aside for use in chloroform liniment or for other external or coarser purposes."

EXHIBIT F.*

Former experimenters have believed that the difficulties encountered in the dry heat sterilization of catgut were due either to the amount of natural fat incorporated in the tissue of the gut, or to the water which was also contained in them, and that in employment of dry heat a sort of cooking process ensued, the result of which was to render the material so friable as to be unfit for use.

If these were the difficulties they have certainly been overcome, as is evidenced by the experiments of Benckisser, Reverdin and Bœckmann. By the employment of the system first devised by Benckisser, the gut before sterilization is cut into pieces of the de-

* Private letter from Mr. Charles Truax, of Charles Truax, Greene & Co., Chicago.

sired length for use and closely wrapped in paraffine paper. By the gradual application of dry heat, continued for two or three hours, the gut parts with its contained fat, the latter being absorbed by the paper wrapper. Under the gradually increasing influence of the heat the water is also evaporated, so that when the maximum temperature is reached, the substance is both deoliated and dehydrated. Under these conditions a temperature of 284° F. may be maintained for three consecutive hours without materially lessening the tensile strength of the gut.

In order to demonstrate that the catgut when subjected to this long continued heat was not rendered too fragile for use, I recently submitted specimens to the following tests:

Ten pieces of German catgut, No. 6, each 6 feet in length were taken and numbered consecutively from 1 to 10, each being labelled at three points, at each end and in the centre. These pieces were then cut into three sutures each 2 feet in length, resulting in three of each number. One set of sutures, those cut from the centre of each piece, were then tested to ascertain their tensile strength by suspending with each a 5-gallon can and pouring water into the can until the suture broke. Their breaking tensile strength was found to vary from 26 pounds to 32 pounds and 6 ounces, as shown by the following table:

	Raw.	Boeckmann.	Schimmelbusch.
No. 1,	27 lbs.	27 lbs. 12 ozs.	27 lbs. 14 ozs.
" 2,	26 " 6 ozs.	24 "	26 " 12 "
" 3,	28 " 10 "	23 "	24 " 6 "
" 4,	32 " 6½ "	26 " 4 "	23 "
" 5,	27 "	27 " 4 "	23 " 12 "
" 6,	31 " 10 "	29 " 4 "	26 " 6 "
" 7,	28 " 4 "	20 "	23 " 6 "
" 8,	26 "	22 " 12 "	21 " 10 "
" 9,	26 " 12 "	25 " 10 "	27 "
" 10,	30 " 13 "	23 " 12 "	24 " 12 "

The second set of pieces was then sterilized by the Schimmelbusch process, which in brief consists in immersing the ligatures in ether for twenty-four hours, after which they were transferred to the following solution:

Corrosive sublimate,	10
Absolute alcohol,	300
Aqua destillata,	200

where they were allowed to remain twenty-four hours, after which this solution was changed for a second lot of the same solution, and this process repeated until the catgut had successively passed through three like solutions, after which it was placed in absolute alcohol for forty-eight hours. The ten sutures were then subjected to the same test as above mentioned, and the breaking tensile strength found to vary from 21 pounds and 10 ounces to 27 pounds and 14 ounces.

The remaining ten pieces were subjected to the Bœckmann-Benckisser system of dry heat sterilization, after which the breaking tensile strength was found to vary from 20 pounds to 29 pounds and 4 ounces.

It will be seen by consulting the above table that the combined weight sustained by the ten raw sutures was $284\frac{1}{16}$ pounds, or an average of about $28\frac{5}{10}$ pounds each. The ten sterilized by the Schimmelbusch process was $248\frac{1}{8}$, or nearly an average of $24\frac{9}{10}$ pounds each, while that subjected to the Bœckmann-Benckisser process was $249\frac{1}{8}$ pounds, or nearly an average of 25 pounds each.

It is evident from this experiment that the difference resulting from the use of the Schimmelbusch and Bœckmann-Benckisser systems is practically nothing, as a little variation in a single suture might have resulted in one or the other showing a slight advantage.

It requires but little argument to demonstrate the superiority of the dry-heat system, as the sutures require no vessels or containers in which to preserve them, and they can be stored or transported in a small space. Sealed in the small envelopes they may be kept indefinitely without danger of infection. As no expensive chemicals are necessary, either in the process of sterilization or storage, the cost of preparation is reduced to a minimum.

The sterilizer employed in these experiments, and in fact the only one available for such use, is that devised by Bœckmann, of St. Paul.

Catgut Ligatures Paramount to all Others in Use, when Properly Prepared, and Perfectly Aseptic.

By James H. Thompson, M.D., Pittsburg, Pa.

The elaborate methods which are in use in preparing catgut ligatures in the different hospitals and sanitariums obviously cannot be resorted to in private practice. Just as thorough asepsis, however, as regards catgut ligatures, may be secured, having been carefully prepared by the physician before they are taken to the patient's home.

Ligature and suture material must be absolutely sterile. In view of the difficulty of obtaining sterile catgut it is wise to prepare it yourself. In emergency surgery, the operator has not the time to prepare beforehand his catgut and silk as previously devised: but by following the plan of preparing catgut ligature as I am about to describe, it will be as convenient to the busy general practitioner as to the Hospital Surgeon, as is consistent with absolute asepticism. If these simple rules for securing asepsis of the emergency surgery and their surroundings are followed the morbidity and mortality rate in private practice will approximate those which are secured to-day in the large hospitals, where the mortality rate has been reduced to a fractional percentage, and where morbidity from sepsis is practically abolished.

Aseptic and election technic in operative surgery, especially those of obstetric and gynæcological surgery, has been robbed of its terrors and the septic and infection state of well nigh its sole risk. All operations of the lying-in chamber, whether it be either mother or infant, call for catgut ligature properly prepared, which every obstetrician should be provided with. It has been considered far superior to all others in plastic surgery about the face and scalp.

In gynæcological surgery there are a few exceptions where the catgut ligature cannot be used with safety. They are the different forms of fistulæ and deep abdominal suture where there is reason to expect ventral hernia following the operation.

Silkworm-gut is as impermeable and non-absorbable as silver wire, it is less easily broken, but less flexible and applicable to all

cases where wire is used. It is given the preference by many authorities. The knot does not hold as well as that of catgut or silk, but, nevertheless, it is a good material for suture.

The best silk is the braided, not the twisted variety. It comes in very fine strands, and when rendered antiseptic is an excellent suture material. Owing to the porosity of silk it possesses one serious drawback, that of secondary infection. There is no material used for ligature and suture, in either general or gynæcological surgery, that can be compared to catgut. Catgut loosens more readily than silk and should be tied in three knots to avoid mishaps.

The management of bleeding vessels in operating wounds is of great importance. All hæmorrhage should be arrested before closing deep wounds.

Occasionally in operating it becomes necessary to ligate a few of these vessels which bleed persistently, and cannot be controlled in any other way, then it is well to ligate them with a fine catgut ligature, the ends being cut off short and enclosed in the wound. In view of these facts it may be said without doubt that the antiseptic ligature is the best means of controlling the vessels in these wounds.

Regarding the material to be used as a ligature it may be said, that which can be enclosed in the wound without giving subsequent trouble is the thing required. The properly-prepared catgut fulfils the indications. Some recent experiences indicate that the Japanese ligature made of whale sinew is the best, owing to its being absorbed with great facility. The rapid absorption of the ligature is the one great objection to its use.

The coaptation of the tissues by means of sutures requires more than a passing notice. The success which J. Marion Sims obtained with the silver wire suture led at once to its general use in gynæcological operations. There is, however, good reason for believing that the results obtained by the great surgeon depended as much upon his skill in using sutures as upon the material which he used.

The catgut ligature possesses the advantage of being absorbed, and it is one that can be buried in the tissues for all purposes, and can be used in any part of the body where ligatures or sutures are required, with one exception, that of bone suturing.

The best results are obtained in preparing catgut with oil of juniper wood, and not of the berries. This was first recommended by Tiersch, and later adopted by Martin, Schroder, Leopold and Pozzi, with slight changes in the manner of preparing it.

Formulas for preparing, as given by the best authorities: In preparing catgut, you should keep the roll of catgut for an hour in an aqueous solution of bichloride 1–1000; put then into the oleum juniperi for at least eight days. They are then removed and preserved in rectified spirits, to which is added a tenth part of the juniper oil. Just before using the catgut, put it into a watery sublimate solution, which swells it a little, but renders it very flexible.

Prof. Martin's method of preparing catgut varies slightly from this. The catgut is immersed for six hours in the 1–1000 solution of sublimate, removed and dried by pressing in a towel, placed in a mixture containing two parts alcohol and one part oleum juniperi. This can be used at the end of six days.

In the Berlin clinics the catgut is left for twenty-four hours in oil of juniper, then for twenty-four hours in glycerine, and then in absolute alcohol, to which is added a small amount of the oil.

Prof. Kocher's method of preparing catgut is to immerse the rolls of catgut twenty-four hours in good oil of juniper, prepared from the wood; then transferred into and preserved in absolute alcohol until used. To prevent early absorption, a hardening process should be added to the disinfection. The catgut should be washed in alcohol, then placed in a quart of a 5 per cent. solution of carbolic acid, containing thirty grains of bichromate of potash. Forty-eight hours' immersion is sufficient for small catgut; larger size needs a longer immersion.

The method of preparing and preserving catgut ligature in the Homœopathic Hospital and Dispensary of Pittsburg, Pa., is similar to that used in Prof. Bergmann's clinic, of Berlin.

Bergmann's method consists of immersing the catgut for ten days to a fortnight in the following solution, renewing it from time to time:

Hydrargyri bichloridi,	1
Alcoholis,	800
Aquæ destillatæ,	200

Benckisser has adopted the method of disinfection by heat. First placing his catgut rolls in envelopes before putting them in the sterilizer, opening the envelopes only at the very moment of using the catgut.

The method preferred and practiced by Reverdin consists in placing the catgut for four hours in a sterilizing oven, at 284° F., before putting it into the oil of juniper and alcohol.

In all cases where catgut is used as suturing material, the grease should be thoroughly removed by washing in sulph. ether before submitting it to any other process. There are many advantages possessed by preparing catgut in juniper oil. It is far superior to the usual method of preparing in carbolic acid. Remarkable for its tenacity and flexibility.

Many surgeons prefer to disinfect the catgut with carbolic acid or corrosive sublimate.

Championniere followed Lister's plan by macerating the catgut in the following solution:

Acidi carbolici, ...	20
Aquæ dest., ...	21
Olei olivæ, ...	100

The great objection to this method of preparing is the time it takes for macerating, which consists of five or six months, and even then it is oily and disagreeable to handle.

Silkworm-gut, Japanese ligature, made of whale sinew, and silver wire, after being subjected to heat of 250 F. in a sterilizer, may be preserved in rectified spirits.

The time for dissolving and absorbing depends entirely on the methods used in preparing, and on the size used by the operator. It is owing to this quality possessed by catgut ligature that no other ligatures have, that the buried suture, and sutures in layers which have been undertaken, have given such excellent results.

Prof. Leopold has adopted catgut ligature for his Cæsarian sections, prepared after the method of Prof. Milkulicy. Catgut placed in carbolized glycerine forty-eight hours, 10 parts to 100, then for five hours in a solution of chromic acid 1 to 200, and finally preserved in absolute alcohol. Alcohol keeps catgut hard and firm, yet flexible.

I have used it successfully prepared according to the last formula in the following operations: Resection of intestines, vaginal hysterectomy, amputation of the cervix, anterior vaginal fixation, anterior colporrhaphy, kolpoperineorrhaphy, suprapubic lithotomy, trachelorrhaphy, ovariotomy, American operation, removing the pile-bearing inch, and removing the appendix vermiformis.

For intestinal surgery the catgut should be prepared by the hardening process by adding the bichromate of potash solution, which will harden sufficiently to resist living tissues for a week or for a fortnight.

For all sutures that are to be buried, or placed in positions where they are inconvenient to be removed, or cause much pain, I have adopted the catgut ligature, discarding silk, silkworm-gut, Japanese suture and silver wire.

The unfavorable results reported from the use of catgut ligature during the early years, were unquestionably due to the lack of appreciation of the necessity of both asepsis and of election in the hands of inexperienced operators. Therefore, our study of the practical use must be based purely on the results which are yielded in modern times when these factions play the chief rôle in operative surgery.

In conclusion, I wish to state the results obtained both at home and abroad; we are justified in adhering closely to the rules laid down by the great surgeons of the day. My object is not so much to describe strange and unusual occurrences, to classify various cases of those operated upon which occur most frequently in practice, giving treatment and results, but with a view of determining what methods have in my own experience proved most efficient.

Closely adhering to the rules given above, or by the preparation and use of catgut ligature, I have not had a single failure or bad result to report from its use.

REPORT

OF THE

SECTION IN GYNÆCOLOGY.

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Sectional Address.

By J. M. Lee, M.D., Chairman of the Section, Rochester, N. Y.

This centennial year of Homœopathy is one in which credits are frequently given to the great founder of this system of medicine, and why not pause for a moment and ask if this section of the American Institute has not, also, much over which to be congratulated?

In the early years of this great organization there was no such thing as a branch of medicine known as gynæcology. The recruits of the New School, with the exception of the graduates of our only college then in existence, came from the ranks of the Allopathic

profession. These men had an aversion not only to the principles of the old practice but to surgery as well. The Homœopaths then were generally taught that the use of the knife was seldom required. The converts from the Old School did some surgery, yet they, too, had an o'erweaning desire to cure everything with medicine, and the knife was rarely used.

Generally, those who grew up in the Homœopathic profession without regular training were deficient in most of the branches of medicine; yet materia medica and theory and practice were studied with the greatest diligence. With a few notable exceptions, the wing of the New School made up from the Old did not practice surgical gynæcology, and often they were more intense in their adherence to the use of drugs alone, even in surgical conditions, than those who had been trained solely in the Homœopathic system.

With this state of affairs it is not difficult to see how readily the Old School maintained the lead in the treatment of the diseases of women. How could the people believe otherwise than that the Homœopaths had no surgeons? It was substantially a fact. The enemy kept it constantly before the laity. We were annoyed, humiliated, and the growth of the school was impeded for many years. Finally, a half-dozen clear-headed men in the colleges took up this branch of practice. They were peers of the best minds engaged in similar work anywhere, and two of them, noble soldiers, have passed to the other side. The others are full of vigor, and honored members of this great American Institute which they assisted to develop. To-day they give it strength, character and position as an up-to-date scientific body in this neglected department. They are untiring clinical lecturers, and have no superiors; they have written books; they have contributed freely to the local, state and national societies, and their clear and comprehensive articles in the magazines of our school are a mighty power.

We, the younger men, whether students or associates, have thus learned many of our best methods and received most valuable instruction. We are indebted to them more than we can repay, and at this time it is exceedingly pleasant and profitable to have these Nestors of Homœopathic gynæcology with us for their valuable papers, logical discussions and wise counsels. Their good work has spread over the country and beyond the seas; from their classes most competent teachers for the younger colleges have been supplied, who constantly reflect the good example of their illustrious progenitors.

The facilities of our post-graduate schools are such that the rank and file of the profession, though not so fortunate as to live at the seat of learning, enjoy a much higher grade of professional attainments than ever before. Bright, industrious physicians practice gynæcology in every large town and city in the land. Their success is gratifying, and although the old prejudices against Homœopathic surgery still exist in certain parts of the country, they are fast passing away.

The development of this neglected wing of the profession has given us prestige and, more than anything else, enabled us to build up large hospitals in most of the great cities. These serve as so many nuclei about which are clustered the broadest culture, the greatest wealth and influence of the people. The impetus given the school by this new acquisition can scarcely be computed. I would not magnify the importance of this great branch of medicine, for there are others which are responsible, to a very large extent, for the symmetrical growth which this department has attained. I refer to other specialties: Neurology, ophthalmology, otology, obstetrics, theory and practice, and materia medica, besides the collateral sciences.

Then certain members of this body, in their herculean efforts to build up hospitals and colleges, have done a great service to this branch of medicine by the provision of better facilities for the instruction and practice of gynæcology. I have in mind now a man who is a veritable giant in this direction, and it is chiefly by means of his good judgment, hard work and exceptional diplomacy, that one of the best colleges and hospitals in the East was established. What is true of this great benefactor may be said of many members of this organization.

But how does this affect our section? How does it affect gynæcology through the length and breadth of the land? How does it benefit neurology, ophthalmology and all the other departments? It enables young men and women to obtain thorough medical instruction and to become competent in all branches, and that aids us. For how would we be able to trace functional disturbances of remote organs to the reproductive system, were it not for the work of the neurologist? Again, there are certain errors in refraction, or other functional defects of the eyes or ears, which can only be skilfully traced to their origin by an oculist or aurist. As a rule, the obstetrician is not an abdominal surgeon; yet who of us does not feel more secure in obstetric emergencies when he is backed up by

wise counsels and suggestions of the skilful accoucheur, even if the gynæcologist is thoroughly equipped. He should first have a wide experience in general medicine, then gradually work into special practice. If this is done, he will not be likely to see all diseases to which the human system is heir, through the vaginal speculum. This is a fatal error and has blighted the prospects of many physicians, and maimed scores of women. If thoroughness is attained, he will be versed in that most important of all departments, materia medica; for without Hahnemann's application of medicine to diseased conditions, even though he may have obtained the highest degree of excellence in all other fields, he will fail in the practical test.

Members of the Institute, I am sure that I voice the sentiments of this distinguished body when I say that we are proud that our membership contains so many bright minds, thoroughly equipped and rounded out in the science of not only this long neglected section, but of every other. When we compare the present results of this great Institute with those of even eighteen years ago, we are alike surprised and rejoiced. For then only a few men (we are happy to say most of them are with us to-day) were prominent in this important department. At the present time there is scarcely a section of this country that is not represented by honorable and competent practitioners, and their results have not been surpassed, if equalled, by the physicians of any school. If we compare our development during a shorter period, the past five years, we find our progress even more marked.

At that time hysterectomy was extensively done by only a few of our physicians, and was confined to removal of the uterus by the extra-peritoneal treatment of the pedicle, or the vaginal operation, generally in cases of cancer. Abdominal work was chiefly confined to ovariotomy. To-day no adhesions however extensive or obstacles however great, provided the patient has a reasonable degree of strength, need deter us from giving her that last hope of life. Frequently appendicitis or its effects obstruct the work of the gynæcologist, and extensive intestinal surgery, with all the other complications, must be quickly and neatly done.

Here, as in many other instances, the two great departments of surgery join, and it is impossible to separate them. This same relation exists all through medical practice; what is true of gynæcology and surgery is also true of every other department; therefore, the specialist in any line must be an all-around man, "one

who knows everything about something and something about everything."

Without this degree of proficiency, the gynæcologist might still remove pedunculated or uncomplicated fibroid tumors, and leave all those cases which grow from the lower segment of the uterus or develop beneath the folds of the broad ligaments, as inoperable, when he might remove them with an astonishingly low mortality.

The resources for the treatment of prolapsus uteri have undergone marked improvement. We no longer rely on the many plastic operations which were so often resorted to, nor do we perform the Alexander or Wylie operations as often as was done before the introduction of hysterectomy. While these may have their place of usefulness at times, we now select ventro-fixation reinforced by plastic vaginal work; or, what is still better, in cases where the tubes and ovaries are hopelessly diseased, hysterectomy and the suturing of the broad ligaments in the angles of the wound. If the uterus itself is badly diseased, which is so common, this is doubly indicated.

Rapid operating enables the surgeon to perform successfully one capital and two or three minor operations, under one anæsthesia, and thus conserve the time and strength of the patient. The method of closing the abdomen, layer by layer, with three or four rows of sutures, at once prevents stitch abscess and ventral hernia.

I might add indefinitely material improvements worked out recently, but sufficient has been said to show the marvellous activity of our gynæcologists during the past half-decade.

This close application has placed our school in the foremost rank as operators, and developed a record for us which, so far as known, has not been excelled by any school or country. Our own distinguished Helmuth found, by careful collection of statistics, that the gynæcologists of the Homœopathic School had a combined mortality in hysterectomy considerably lower than that of the surgeons of the Old School of either Europe or America, and, without doubt, similar reports might be made in other fields of surgical work. This department has had magnificent success; our results have been marvellous, and, for the present, we are rejoiced and satisfied.

Peritoneal Adhesions.

By O. S. Runnels, M.D., Indianapolis, Ind.

Every student of anatomy has been puzzled in the attempt to gain a clear conception of the peritonæum. The written description of its extent, of its duplications and reduplications, of its conformation and adjustment to all the organs and surfaces upon which it is imposed, has taxed the comprehension to the utmost. So great is its expanse, so intricate its adaptation and contiguity, that careful dissections even are barely adequate to enable one to see it in its entirety or to grasp it as a whole. While the mind has been put to its tension in understanding peritoneal anatomy, it has encountered a vaster problem in the acquisition of the knowledge of peritoneal physiology and pathology.

The penalty of peritoneal invasion was for ages so heavy as to be proscriptive of all leisure investigation. It was only under conditions of most pressing emergency that opportunities for observation were had. The normal status was then so greatly changed that little progress was possible.

Before the days of asepsis it was difficult for the abdominal surgeon to differentiate cause and effect. It has taken a long time to demonstrate that all fulminating peritoneal inflammations are due to sepsis; that it may originate from within as well as from without, and that auto-infection, aside from perforations and tubal deposits, may occur even through an intestinal wall apparently intact. This accomplishment proved that sepsis was not primarily responsible for as much of the ill-success after peritoneal manipulation as diagnosticians had supposed; that it was not always superimposed by the operating surgeon; that many deaths due to such surgical intervention could not be ascribed to primary shock on the one hand or septic peritonitis on the other, and that a certain percentage of such fatality remains to be accounted for.

That problem is still before the profession and awaits solution.

It must not be forgotten that the chief tissue encountered in the abdominal cavity is peritonæum; that the thing most extensively touched by the hands, the instruments or the mops of the operator

is peritonæum, and that however bold and projecting the various organs may be which occupy the great cavity bounded by the diaphragm, the abdominal walls and the pelvic floor, they are invested by that most delicate and sensitive of all textures, the peritonæum. Even the neoplasms, the vegetations and other morbid exhibitions therein encountered, have either peritoneal covering or continuity. Lining of parietal walls, covering of intestines and all viscera projecting into the abdominal cavity, the ligaments that hold them *in situ*, together with mesenteries and omenta, all these in their connections and expanses are peritonæum. Endowed with omnipresence, so far as the abdominal cavity is concerned; possessed of a richer blood-supply than any tissue of the body, and provided with a nerve-distribution and sensitivity of the highest order, the peritonæum is capable of manifesting the most intense, complex and varied phenomena known to vital physics.

Structurally the peritonæum is a strong, uncolored serous membrane with smooth, moist and shining surface. It is essentially connective tissue composed of a surface plexus of white fibres and a deep layer of elastic fibres attached to the subjacent structure by a fine net-work of sub-peritoneal cellular tissue. This net-work is composed almost wholly of blood-vessels, nerves and lymphatics, which, throughout the visceral portion of the peritonæum in particular, supply the great serous membrane on the one hand, and the accompanying mucous membrane of intestine, or the parenchymæ of the various allied organs, on the other. No region of the body is so richly supplied in these respects as the abdominal. So extraordinary is the service required in this region that nature has made unusual provision for its performance. The size and multiplication of the visceral arteries and veins; the extent and registration of the splanchnic nervous system, embracing solar, semilunar and cœliac ganglia, *i.e.*, the major portion of the "abdominal brain" and the provision of lymphatics of greater size and number, all attest nature's preparation for the body-nutrition thus consummated. For here upon a broad plane do we get in capillary, nerve-terminal and lymph-meatus, the initial provision for the life exercise. To this end the basal fibres of peritonæum are covered by endothelial cells "set together by their edges." Between the cells are microscopic orifices called stomata, communicating with lymph sinuses which serve both as lubricators and nutrition collectors, while upon and within the cells, permeating them through and through, are to be found the final subdivision of capillaries and nerve-filaments.

All this has special bearing and significance in the proper realization and explanation of the functions and protests of the peritonæum. It is this definitive expansion upon the surface of the peritonæum, backed as it is by the most perfect nutritive resource, that renders that membrane at once the most delicate and responsive of the body. The capillaries, like those in the tunics of the eye, are capable of taking on arterial proportions in an incredibly short space of time, transforming the light gray of the membrane into the intense red and black of inflammation. The nerve-terminals, capable of sensitivity of the highest order, are easily carried beyond the normal into obtundity and complete paralysis. The lymph-pores also, under abnormal friction and stimulus, exude into the cavity a vaster quantity of plastic serum, which assists in the agglutination of roughened surfaces, or remains as a sero-sanguinolent or sero-purulent collection, while the elastic fibres of the membrane, in their proper contractility, keep the extent of the membrane down to the limit of demand by immediately taking up all slack the moment requirement ceases, as is instanced after labor and the removal of fluid collections and neoplastic growths. If the normal contractility is insufficient to obliterate the redundancy, a lap or fold of the tissue upon itself follows, with adhesion of its surfaces and the required shortening. This is all beautifully instanced in the duplications and reduplications which go to form the various meso-tissues and the foramen of Winslow. The so-called peritoneal cavity, therefore, is a misnomer, inasmuch as here also nature has succeeded in the avoidance of a vacuum, the cavity being always fully occupied, whether with much or little.

Fully lining the parietal walls internally, and the intestines and projecting viscera externally in a cavity forever occupied, the peritoneal surfaces are in perpetual apposition. Bathed with the finest of lubricants—the lymph discharged upon it from its every pore—the peritonæum is tolerant of the contact and friction which it is continually making with itself. These are the normal experiences of its life, to which it never protests.

If now the hands of the peritoneal surgeon and his sponges and absorbents were covered by delicate peritonæum also—if only such velvet touch, equally lubricated, could be attained—his percentage of loss, under ordinary aseptic precautions, would be practically *nil*. But how contrary in practice is the peritoneal experience. Exposed during surgical procedure to light and air and a fall of temperature of from twenty to thirty degrees within a few minutes; brought into prolonged contact with hands too rough, or with towels,

sponges and mops too coarse and repellant, the peritonæum is rubbed and injured to an inconceivable degree. It is incised, forceps-bitten, torn from abnormal adhesions, and ligatured; the intestines, gas-distended, rolling from their protected bed, are hung by their ligaments upon the outside, or are swathed and suspended in oft-changed towels of variable temperature, or are tucked and jammed back into the cavity and there retained with force sufficient; the "toilette" is made with such washing, combing and brushing as to satisfy the most fastidious; and gauze or tube-drainage and final needle-punctures end the chapter.

I am not saying that any of this is avoidable or that much of it is inevitable; but is it a wonder that protests not a few are heard? Is it not a wonder that more remonstrances are not made? If the myriad of nerve-terminals upon the plane of the peritonæum were cerebro-spinal instead of sympathetic; if they had the ability to report pain, as have the nerves of the conjunctivæ when dirt or foreign body is imposed, or as has the integument when thorns irritate, what noise and consternation at the beginning would not be encountered? The peritoneal nerves, however, being sympathetic primarily, and cerebro-spinal only by indirection, it may be hours and days before information of an inimical condition is received and emergency symptoms are recognized.

Fully realizing the delicateness of the peritonæum and the manner of its responsiveness, we are better prepared to consider the phenomena of the lying-in of cœliotomy. Following the initial surgical invasion, however deftly done, there must be stages of inflammation. The friction, the irritation, the injury done, must inaugurate hyperæmia, congestion and inflammation in every case, without exception. It is a question here of degree, but never of kind. Take it for granted that peritonitis is always present.

The inevitable shock to the nervous system and the injury done to endothelium and substructures are quickly succeeded by the process reparative. Concentration of blood-corpuscles and outpour of lymph are immediately begun and continued in ratio correspondent to injury inflicted. These are the plastic elements out of which nature effects the repair. The new growth will be adequate and complete if the injury has not been too extensive, or if pathogenic bacteria have not been engrafted upon it, in which case the local may be succeeded by the general, and the conflagration, like a prairie fire, may become extensive, driving all before it.

Within safe boundaries inflammation is always reconstructive—

adhesive; and upon the peritonæum remarkably so. Even in the non-irritable state two peritoneal surfaces left in quiet apposition will become agglutinated, like fly-paper, in an incredibly short time. And but for the vermicular motion—the normal peristalsis—forever going on, the intestines themselves and the parietes in apposition would become an agglutinated mass during a single diurnal revolution.

This great fact has been wholly overlooked hitherto, or has been apprehended so feebly as to be shorn of its immense significance. It is true that many operators have learned through long experience that all cœliotomy patients do better who have early and frequent alvine evacuations; and that no condition is so disquieting to the astute surgeon as inability to procure such discharge: but why that is so has remained, I think, in some confusion. Mr. Tait ascribes the good influence to the serum-drainage through the mucous membrane occasioned by the active cathartic, and maintains that the current thus established evacuates the excess of peritoneal fluid, leaving that cavity clean and wholesome. While this practice secures the result, the reason for it is but half given.

Dr. Helmuth, in his last House Report, hits the mark more nearly in his short chapter on "Paralysis of the Bowels," and amplifies it later in the same work in his most admirable essay on "Peritonitis." But even here the point is not made that peritoneal adhesion is responsible for established intestinal paralysis, and that the great good of an early purge is the re-establishment of peristalsis, and the prevention thus of a fixed adhesive incarceration.

I have instanced above how stunned and temporarily paralyzed the delicate nerve-terminals may be after peritoneal invasion, and how soon suspended peristalsis may be followed by an adhesive inflammation capable of agglutinating and cementing intestinal loops into a veritable lock and chain. But I want to emphasize that fact here with all the force possible, inasmuch as I consider it the paramount fact.

Grant but the most insignificant stasis of vermicular motion, and general blockade is the result. Let but a single knuckle of intestine be held fast and paralysis insurmountable by drugs will be encountered. We then have a part of the body, restless from life's dawn as the waves of the sea, brought to a dead halt. It may be loaded with ingesta, much of it putrefactive; plus the admixture of drastic purgatives; plus the bacteria normal to the intestine from stomach to rectum. The healthy intestinal wall, an effective bar-

rier to all transmigration of bacteria, robbed of its vitality by the choking incident to the incarceration, becomes a non-resistent tissue through which, as by osmosis, the bacillus coli communis may pour by myriads into the adjacent tissues. The gut-wall at the point thus, or otherwise, lowered in its vital tone, may correspond in all respects to a veritable perforation, with all that that implies. It is this class of cases over which the surgeon, whose technique has been faultless and wholly aseptic, has cudgeled his brain in attempting to account for the intra-peritoneal microbe. This is the explanation of death after strangulated hernia, ileus, volvulus, non-perforative appendicitis and fulminating puerperal fever, as well as sudden idiopathic peritoneal lesion. If nature is unable to hedge against such furious and virulent hordes by exudative inflammation, the day is lost. If it is not possible for her to burn the bacteria to death by the fire kindled for the purpose without consuming the host also, only charred ruins will be left to tell the story.

Inflammation *per se* is always benign, even when raging to its utmost extent. It is an attempt to overcome correspondent evil, and while not always able to come off victorious, is the savior of the day in most instances. Battles cannot be fought without havoc sometimes irrevocable. We must learn to recognize our friends and know when to assist them. The mission of the doctor's art is to aid nature. Is it possible for him to acquire the faculty of recognizing the call for help early enough to make his reinforcements useful?

There is a tide in the affairs of surgery which, taken at the flood, leads on to fortune. Let me illustrate:

Case I.—"A hysterectomy for fibroid tumor. Vomiting and abdominal distension, followed in due course with high pulse and temperature. The patient died in two days. Post-mortem: A coil of intestine was found adherent to the broad ligament. It was immensely distended above, but quite collapsed below. No sign of peritonitis."

Case II.—"Not a sequel of operation; aged 80; commenced her illness with an attack of diarrhœa followed by abdominal pain and bilious vomiting; some meteorism and entire absence of alvine evacuations after the first day, which continued till death, in three weeks. Post mortem: A knuckle of ileum contracted, adherent to pelvic wall, strangulated and sphacelated."

Case III.—"Aged 35. Sought relief from intense left-ovarian pain extending to spleen, with menorrhagia, due to enormous hæmato-

salpinx. This, bursting, had involved broad ligament, as the incision proved, and was walled off by extensive adhesions. Removed by cœliotomy. Record for six days showed temperature below 101, pulse 80 to 110, but the pain in region of spleen continued, and in addition to locked bowels there was marked meteorism confined wholly to the supra-umbilical region. Pulse and temperature at commencement of second week showed increasing vacillation, the latter reaching 102; stomach rejected everything and the splenic pain required opiates. On the eighth day I reopened the abdomen, finding an adhesive band across the jejunum, at the angle of transverse and descending colon, which tightly constricted it, barring the passage of gas or liquid. Although this adhesion antedated the cœliotomy, it was without doubt tightened and completed by the adhesive process following that act. Dividing this band, I was delighted to see the empty bowel fill and distend by the influx from the dam just removed. The peritoneal wound on the broad ligament was already effaced, and, supposing that all call for further intervention was removed, I resealed the abdomen and awaited results. Imagine my consternation when I found myself still unable to effect a bowel-movement. There was evidence of vermicular motion, sound of regurgitation, but no anal passage. Meteorism was more general and vomiting on ninth and tenth days stercoraceous. Temperature and pulse, respectively 103½ and 130, still ascending; restlessness very great. I recognized that the curtain of the last act was about to fall. Reasoning that she would soon be dead anyway, I resolved to make another ante-mortem. Upon opening the abdomen, for the third time within ten days, I realized what I had overlooked on the eighth day, viz., that the eight days of suspended peristalsis following the manipulation of the first cœliotomy had effected complete and thorough agglutination of the intestines, which, although perfectly normal macroscopically, were in fact only one cemented chunk of conglomerate tissue. Commencing at the pylorus, I examined the intestine inch by inch all the way to the rectum, stripping it from its fellow coil and effecting its liberation. With hand still in the abdominal cavity I ordered a large enema, and by the help of direct intestinal massage secured, while she was still upon the table, the evacuation of more than a gallon of putrid fæces. Resealing the parietes for the third time, she had a "most uneventful recovery."

In the light of the foregoing some concluding inferences are pertinent:

1. During cœliotomy there must be an ever-increasing purpose and ability to conserve the energies of the patient. This will be accomplished by minimizing the time of the operation to the utmost; by exposing (except in tuberculous peritonitis) the peritoneal surfaces as little as possible to the air, to the chill of a lower temperature than 98½ degrees, and to much handling and friction. Nothing can more quickly impair the vitality, the defensiveness of this most delicate and responsive membrane than the prodigal waste of nerve-force thus displayed. Quickness, or safe speed of work, and the avoidance as far as possible of peritoneal manipulation and exposure are, in my opinion, the paramount claims of good operating. They are on a par with the securement of bleeding vessels. It is the conservation of the life-current in either case.

It is the contention of Mr. Tait that any bacterium will be successfully resisted and annihilated by a peritonæum of unimpaired vitality; and we know that bacteria cannot enter from the alimentary canal until a penetration has been effected by ulceration, or until the membrane has lost the resistancy of its vitality through injury or incarceration.

2. There must be no abatement of the endeavor to secure absolute asepsis in every detail of abdominal surgery. Every precaution must be utilized to exclude the germ from without—chiefly the streptococcus pyogenes—which upon a devitalized peritonæum is responsible for the major portion of the dangerous peritonitis thrust upon the patient by the operator.

3. Certainty of peristalsis is the thing imperative. Until the post-operative evidence is clear upon this point there can be no surgical repose. Until the intestinal loops are pushing this way and that in every direction with absolute and untrammelled freedom, danger awaits in ambush: the agglutination of adhesion may be taking place; the cordon of defeat may be forming; the fixity inimical to mobility may be already established. Before the sense of safety is had, the welcome borborygmi must be heard, abdominal commotion must be felt: the escape of flatus and fæces in satisfactory amount must be attained. The first great duty after the subsidence of the shock is the movement of the bowels—their vigorous evacuation—attempted not later than the second day. If a simple saline purge is sufficient, well and good; but other members of the purgative family may be called for, even Mercurius dulcis, crude, in a five to ten grain dose, or Croton tiglium in drop doses upon the tongue. Sometimes even an effervescent or turpentine

colonic clyster will be helpful. During all this time of anti peristalsis and evolution from bad to worse the surgeon must hold his resources in readiness to say thus far and no farther. He must know when conservatism demands the re-entry of the peritoneal cavity and the manual liberation of the prisoner at the bar.

DISCUSSION.

R. W. MCCLELLAND, M.D., Pittsburg, Pa.: I feel some hesitation in following Dr. Runnels. That paper is simply logical and luminous. I merely rise to add my voice, if possible, to a very special point brought out in this paper, and very correctly and very thoroughly brought out, and that is the handling of injury of tissues, especially the peritoneal tissues. An incident occurred a few years ago that brought this matter to my mind very forcefully. I met an assistant of the famous Kocher. Among other things, he mentioned to me some experiments he had recently made upon the peritoneal cavity. He said: "I have taken millions and myriads of bacteria and injected them into the peritoneal cavity (of animals, understand), with the hypodermic syringe, with absolutely no effect whatever." After reporting it to Kocher, he said: "Operate on your animal and then try again. He said: "With all the care I could possibly use, I took animals upon which some experimental operation had been made; taking simply the point of my hypodermic needle, I touched them with the bacteria of the streptococci, and in forty-eight hours every animal so treated expired." Now, he said: "That is peculiar. How do you explain that? Is it the air?" I said: "Doctor, the thing that strikes me just at the moment is this: Of course the healthy peritonæum, as every healthy tissue, is competent to deal with almost any germ life up to a certain point of toleration. Now in this handling of tissue it is traumatized, and now your germ is operative." So from that time on, in my own practice and in any that I have had any influence over, I have steadfastly endeavored to save the tissues from handling, especially the peritonæum. If that idea is prominent in our minds we will many and many a time avoid the handling of tissue, and bring about a better issue. I think this is a most practical and useful paper, that will do very great good, if extensively read and circulated.

H. F. BIGGAR, M.D., Cleveland, O.: I know more about the peritonæum that I did before this excellent and scientific paper was read by our good friend Dr. O. S. Runnels. Some person has said that next to the brain the peritonæum is the most important organ in the body. There are some very interesting sequelæ resulting from cutting the peritonæum. The doctor very lucidly explains these conditions when he says that the injury to plexuses of nerves and the numerous capillaries is followed by certain reflexes.

There is one particular condition that I do not understand, but

may possibly be enlightened before the discussion is at an end. Can any one tell me why it is that a patient has that excessive thirst when the peritonæum is opened? It is said that it is owing to loss of blood. You amputate a leg; you amputate a thigh; do any other major operation where there is three times the loss of fluid, but you do not get that excessive thirst. You may anticipate this thirst by giving frequent and large draughts of hot water for a few days previous to the operation, with the expectation of having the tissues saturated, and still you cut the peritonæum with little loss of fluid, yet there is that great and intense thirst. I do not understand it, nor has it ever been satisfactorily explained.

There is a condition upon which I might make a suggestion. Dr. Runnels has spoken of adhesions of the peritonæum, which may be either visceral or parietal. There is a fœtal organ which is sometimes entirely overlooked, and a cause of very serious adhesions; I refer to Meckel's diverticulum, which is the fœtal organ of the urachus. One end of this diverticulum is attached to the umbilicus, and the other end floating about sometimes becomes fastened to some abdominal or pelvic organ, and produces adhesions or strictures of the intestines. I think I can safely say that this diverticulum occurs in cœliac surgery, perhaps in two or more per cent. and should not be overlooked in abdominal sections. In preventing adhesions after operations we have found it of great advantage to follow up two or three simple devices; one is to handle carefully the intestines with clean hands and thorough asepticism. Now do not flood the abdomen in order to float them, but place the bowels where they should be gently, accurately, carefully, naturally, and when you have done so, just pull the apron over it, and do not forget that the omentum is there for protection, and to lubricate and prevent adhesions; yet if you do not properly replace the bowels and the omentum, adhesions are more likely to follow.

Another point is that where you have adhesions, especially where there is a large denuded surface it is very easy for a link of the intestine to become adhered and obstruct the peristalsis. How can this be avoided? In two ways. Don't be afraid to powder the denuded surface with iodoform. Don't be afraid to pour in a suitable amount of sterilized oil before you seal the abdomen. Now having completed your toilet, you should within 24 hours move the bowels. The *vis a fronte* and the *vis a tergo* are necessary. Submuriate of mercury in one-grain doses for the *vis a tergo*, and the colon flushing for the *vis a fronte*.

I recollect the removal of five separate cysts, each distinct and all connected, more or less, with the floor of the abdomen. The adhesions were extensive. Two days after the operation I saw her at eleven o'clock at night, her symptoms were to me suspicious, but not alarming. I went home and tried to sleep but could not, I got up at one o'clock in the morning and walked to the hospital two miles away. I do not know what led me there except my anxiety, and when I arrived I found a subnormal temperature with a pulse of 168, coffee-ground vomiting, with the skin cold and clammy. I

immediately removed a few stitches, opened the abdomen and with a finger was fortunate in separating an adhered bowel. It gave her such instant relief that I felt sure that we had accomplished a great deal. I remained by her side for two hours, at which time she was slowly improving. She entirely recovered, and I have always been very thankful that I took so early a morning walk, with such beneficial results to the patient.

J. J. THOMPSON, M.D., Chicago, Ill.: I know it will seem like egotism for me to get up before you to-day and undertake to discuss this question after the able paper and the able discussion which have come before you; but I feel that I would not be doing my duty to myself or to Homœopathy without saying something, at least, on this question. I do not pretend to have had anything like the number of cases, abdominal cases, cœliotomies that our essayist has had or these worthy gentlemen that have spoken. I do not say it boastfully, but I think I can say it truly, that with the limited number I have had I never have had cases of adhesions, or at least that I know of; and I believe that I owe my success in that direction to the use of the ordinary saline solution. I do not believe in the use of iodoform in these cases; in fact, even in packing I have thrown aside the iodoform gauze for other gauze or for other things. It seems to me that we might, with ordinary care in handling the intestine, as suggested by our essayist, and with the use of a mild solution of salt water not strong enough to dim the lustre of the peritonæum, almost never have adhesions. I do not like, either, the suggestion that the essayist has made in regard to giving strong cathartics or turpentine preparations or anything of that kind. It seems to me that in many instances we will do quite as much harm with these preparations as we will good. I am a good deal of a Homœopath myself, and I believe if our essayist would take the time to study out the carefully indicated remedy in these cases, as he is capable of doing, and in other branches he has given us such excellent instruction on the selection of the Homœpathic remedy in gynæcological work, I am surprised that he should not have given us one hint of the Homœopathic remedy in obstructions of this kind to start up the peristalsis. I believe we have remedies, and if we will select them, it will help us out, and we will get peristalsis almost from the start without having to resort to these remedies.

R. LUDLAM, M.D., Chicago, Ill.: First, ladies and gentlemen, I want to pay my respects to the chairman of this section, who announced that I had failed to be ready with a report. I must say in self-defence that it is the first time I have failed in a medical society to be prepared to read my report when called for; so I crave indulgence.

I have enjoyed the hearing of this report and the discussion which has progressed so far. There was a time when we had no such papers as this, I assure you, and that time was not five years ago or three years ago. This is practically a new paper, and nothing

pleases me more as an old fellow (for my friends have made me feel old since I came here) than to see that our different sections are keeping up with the procession, and not falling behind in the progress that is being made in these different departments of medical study and research.

I can remember, and so can most of you, when it was thought altogether wrong, if there was a threatening of peritonitis, to interfere with the bowels in the least. I am perfectly satisfied that thousands of women have gone to their graves because our good old friends in the Homœopathic School insisted that the bowels should be left alone. This prevails still somewhat, and it will be for the obstetricians to learn of the gynæcologists as the surgeons have learned of the gynæcologists. It may be a hundred years before the world realizes what it owes to the abdominal surgeon, and the gynæcologist first of all. I believe that very much good will come of this description and definition of the peritonæum that we have had to-day; at least, we shall understand that its specific remedy, its geography, is not so important; that the views we have had heretofore have been something like the descriptions of hernia, which were never satisfactory, so far as I know. When you come to true hernia, then you have got something more definite. So in this matter of peritonitis and the peritonæum we are learning; and this is the lesson of the essay, that peritonitis, *per se*, is a certain thing in all kinds of surgical work within the peritoneal cavity, and not an accident. The doctor has made it clear; it is the newer view, it is the truer view, it is the most important view of the whole case.

Now, the idea that the peritonæum may be injured from without, that it may be attacked from within, ought to be borne in mind. The idea is prevalent among the younger surgeons that if you will have strict asepsis and not induce infection from without the patient, they always get well. This idea has fastened upon the obstetricians also. But there are sources of infection which we must not forget, and which we must provide against; if we do not, then our statistics will fall back to the old statistics of a few years ago. Nothing can be more important than exciting, keeping up and conserving the peristaltic action of the intestines. All this means a special providence as to all these conditions.

The cases that have been cited are really very instructive, very pertinent. They display a school experience on the part of those who have given them that it would be very hard to measure; and I have had something of the kind in my own experience, and have been more than once able to save human life in great emergencies. I wish that certain ones would stop saying that Old-School pathology is worse than nothing. We owe very much of this to the Old-School practitioners. Let us take all we can get and appropriate, and let them do the same. We can teach them something.

The case cited by my friend from Cleveland was a very remarkable one in several ways. You get a clinical lesson from it, I am sure, and a very satisfactory one.

I do not know that I can saything more that is absolutely pertinent to this subject, except once more to congratulate all of us that this section has furnished a paper that will be of real service to those who shall read it, and be a real credit to our volume of TRANSACTIONS.

BUSHROD W. JAMES, M.D., Philadelphia, Pa.: On this one point of the application of remedies, I would like to ask the gynæcologists whether or not they have abandoned the use of Calendula in these cases. In my earlier professional days it was taught in our medical college that Calendula was one of the best local applications for all open or incised wounds, and I used it for years almost altogether as a local application before we began to apply the newer applications. I think we have forgotten some of these old remedies, which are very useful in these cases.

It seems to me that if we find a disposition to the want of peristaltic movement in the bowels after operation, why should we not at once prescribe our Nux vomica or Colocynth, or such remedy Homœopathically as adapted. I do not want to limit the gynæcologists in their medicinal agents, but I feel that they are going a little off of the line of applying our Homœopathic remedies which we know are very beneficial in many of these cases before they get into this condition that has been spoken of by Dr. Runnels in the exudation or collection of this material, which fastens the bowel so that the contents cannot get through. I only want to urge the use of the Homœopathic remedies a little earlier and more persistently, rather than Terebinthinum and these strong applications in use by the Old School, and especially with regard to the use of remedies which copiously open the bowels. Now, several were mentioned that are very irritating, and, I think, are oftentimes injurious in these cases, whereas if you would use something like Olive oil, with a copious enema, I think you would accomplish the object very much better than by using such remedies as Turpentine, Croton oil, etc.

DR. RUNNELS: I hope I am imbued with a becoming sense of modesty under all that has been said. I have only tried to give you the latest thought on this subject. I did not think anything about where the truth was coming from that I tried to weave into this paper, but I hope it came from God. Truth is neither Allopathic or Homœopathic, but for the good of all. We must keep ourselves in touch with the best that is going in the world in our various lines. I am sure that every live man is doing that, and is glad to do it, under whatever flag he claims to be marching; and as has already been said by my illustrious friend, Dr. Ludlam, it is a question of science that we are at work upon. We gynæcologists are to do our utmost to utilize every therapeutical fact that has been established. But this is not a therapeutic condition; it is a surgical, mechanical condition, and therapeutic remedies have no more application here than they have in trying to stop the flow of water

down a stream. Now, the object is to set up an irritation, to assist the deadened peristalsis, to get the life current going in the normal direction. We are not informed of that condition usually until the current has been reversed, until we have antiperistalsis, when the stomach will retain nothing. The great trouble is to get anything to stay in the stomach long enough to act. Hence, sometimes we have to use the most concentrated irritants that we know anything about, namely, Croton oil, in a drop or two-drop doses upon the tongue, so that the stomach cannot reject it; so that it is there to do its work. We do not do ourselves any credit by coming here and using that old therapeutical "chestnut" on this section. There are none of us who would shut our eyes to a good thing of that kind; but it is a mechanical condition, and not at all amenable to dynamic medication.

Some Abuses of Medical Practice as Applied to the Diseases of Women.

By Cornelia S. Stettler, M.D., Chicago, Ill.

In the following paper the design is not to criticise or undervalue the benefits that have accrued to women through the skilful practice of Homœopathy, for, as a class, if we except infants and young children, no portion of the community has derived so much relief from its faithful ministrations. The positive good from this source is compensation for a large amount of harm that has been done indirectly and unwittingly, and for which, under the circumstances, its practitioners were not strictly responsible. When Homœopathic physicians had to make their way against the combined opposition of the Old School, there was neither time nor opportunity for the cultivation of this special field of gynæcology. Indeed, before gynæcology was born into the family of medical specialities, the nicer shades of discrimination in its theory and practice, which are so familiar to us of to-day, were unknown.

There are, therefore, two sources of error that are entailed upon our schools of practice which have influenced and compromised the Homœopathic medical treatment of women. These are (1) the over-confidence that was begotten of the early and inevitable partisanship of some of our predecessors, and (2) the chaotic and unsettled condition of gynæcology, when certain rules of belief and practice in that department were laid down for us before the subject had been studied and was understood. When, for example, Jahr's book on the *Diseases of Females* which, of course, meant women, was written, all the indications given were drawn directly from the materia medica, and it is safe to say that the largest share of them had no practical clinical relation with their diseases.

He evidently decanted them over as carefully as possible, but there was no practical test of their fitness for a case in hand, and no chart for their safe and intelligent employment. He was as innocent of a knowledge of uterine or ovarian pathology as he was of the use of the uterine sound or the clinical thermometer. With a sectarian bias toward symptomatology as an exclusive guide in therapeutics, and total ignorance of the teachings of modern

gynæcology, he could not be expected to know what was best for those of us who have reached the close of the nineteenth century. It was the same with his book on *Mental Diseases*, and indeed with most of the works that were written at that time.

Perhaps the larger share of mischief that has come to this specialty in a medical way is referable to the dictum that diseases of all kinds are curable by internal medication, "if we only find the proper Homœopathic remedy." Only a blind faith, however, could claim to cure such complicated lesions as belong to uterine displacements, uterine and ovarian tumors, certain diseases of the appendages and ectopic gestation. We are sometimes put at a great disadvantage when one of our number promises to cure a case of cystocele or of pelvic hæmatocele by an affiliated remedy. Only recently I was very much mortified by being consulted in two such cases. A reputable Homœopathic physician had been treating both of them ineffectually for months with internal remedies. In the cystocele case, however, the doctor had finally told the patient that, while he could cure her if he had sufficient time, that it would take so long to effect it with remedies alone that perhaps she had better consult a surgeon.

This is quite as absurd as another case, in which an Old-School neurologist insisted upon his ability to decide whether an insane woman had some local pelvic trouble or not without making a local examination. She afterwards came to me, and she proved to have an enlarged and displaced ovary, which was the seat and source of her trouble.

In extra-uterine pregnancy in which the symptomatic indications alone being confined to the uterus and resembling those of threatening abortion, with or without internal hæmorrhage, one would never be led to the proper internal remedy, and this for the simple reason that there is no remedy or remedies that are adapted or that can be adjusted to the intelligent and satisfactory cure of such a case.

We are too prone to forget, I think, that the whole subject of uterine pathology and diagnosis has undergone a species of evolution and revolution within the last quarter of a century. What was once obscure and unsettled is now, for the most part, clear and determined, and we can feel pretty well assured of a practical knowledge of the natural history of pelvic and abdominal disorders as a starting-point for their rational treatment, whether it be medical or surgical or both.

The scope of our clinical observation has very much enlarged, but the range of our remedial sources, exclusive of surgical methods, has not yet undergone a corresponding development. Prejudice against the newer ideas and tenacity in holding to the old ways have hindered what should have been a mutual progress and blessing to the class of patients most immediately concerned.

Our school has undoubtedly suffered very much in this, as in other departments of practice, from an indifference to the claims of diagnosis. For the more important the specialty, the stronger the necessity for discrimination in diseases that resemble each other, and which cannot be treated intelligently and indifferently at the same time. The ability to forecast the course and termination of certain diseases of women should be cultivated to the highest degree. One of the most serious abuses in the medical treatment of the diseases of women must be charged to an overweening faith in our remedies under all circumstances and to a disregard or ignorance of the inevitable outcome in incurable cases. Many a poor woman with uterine cancer and with tumors, that cannot possibly be disposed of except by the knife, has been led to believe that she would recover by the exclusive use of internal remedies. Her physician was not necessarily dishonest, for he may have been too hopeful, or too enthusiastic; but there is no excuse for him if he has been too optimistic or too ignorant of prognosis to anticipate and to declare the final result.

There is another form of treatment, the result or non-result of which has placed some of our best physicians in a false light, to wit, the practice of making local applications to the neck of the womb two or three times a week or oftener, as a *habit*, without any adequate idea of the lesions involved, or of curing them by such means, has been very common, and is still in vogue in some remote portions of the country. Such treatment is either worthless or harmful in proportion with the strength and frequency of the applications that are made.

In lacerations of the cervix, simple ulceration, displacements, subinvolution, endometritis, and even of cancer, such a method may, however, be used temporarily until the case can be fully investigated, the patient's confidence secured to the extent of making her realize that something more thorough and radical is requisite. But it is simply inexcusable, not to say empirical and ridiculous, to continue this sort of do-nothing, topical tinkering indefinitely and under the guise of scientific and appropriate treatment. This ob-

jection does not apply to cases in which such measures are expedient, and to which they may be adapted, especially when used in conjunction with the proper internal or constitutional treatment. It is the routine abuse of this sort of thing that we most earnestly deprecate, not only because it is often inadequate and inappropriate, but because it is likely to compromise us as well as a separate school of practitioners.

In conclusion, it is evident, I think, that the successful and rational medical treatment of the diseases of women necessitates (1) that, as Homœopathic physicians, we should modify and adopt some of the old rules of faith and practice to suit the advanced state of general medicine to the age in which we are living, and (2) that a careful knowledge of gynæcological pathology, diagnosis and prognosis are indispensable to the skilful and most successful employment of our remedies in the treatment of diseases belonging to this specialty.

Discussion.

J. C. Wood, M.D., Cleveland, O.: If I were to say what I feel like saying in commendation of this paper I should have all, or nearly all, the materia medica men on my track, and the discussion would continue for the greater part of the day. I feel that this paper, coming from the source which it does, is exceedingly refreshing, inasmuch as for the last five or six years we gynæcologists have been turned down by certain learned members of the profession of the other sex.

I am not going to enter into a lengthy discussion. I am simply going to state that last year 66 per cent. of the cases of carcinoma of the uterus which came to me were inoperable, and they were inoperable simply because (and they did not all come from Homœopathic sources by any means) the men and women in charge of these cases, instead of instituting a careful local examination, depended upon a blind symptomology which proved disastrous in 66 per cent. of the cases. This is a sad commentary. It is food for thought. It means that we have, up to the present time, much to learn and a great deal to charge our general practitioners with in the way of diagnosis. I say this in all kindness. The time has come when, with our knowledge of disease of the pelvic organs, the man or woman who will go on treating a suspicious condition of the uterus, one which suggests malignancy, or relies persistently on a blind symptomatology, is guilty of gross neglect. I am not deprecating proper conservative treatment in making this statement. I am not a therapeutic agnostic; I believe in therapeutics; I believe that the Homœopathic law is the best yet enunciated, though not the only one by any means. But I do not think that a faith in that law should lead us to persist in our treatment of causes until the disease has passed beyond the operative stage into an incurable one. I grant

you that we operate sometimes when we ought not to operate. We have operated oftener in the past in cases where we ought not to than we propose to do in the future. We gynæcologists are not all removing uteri for the almighty dollar alone; we are working in good faith, and we ask you to believe us when we make that statement.

JULIA HOLMES SMITH, M.D., Chicago, Ill.: As one of the elder practitioners who have been experimenting because we knew no better, I arise just now to congratulate our young sister that she has had so much better advantages than physicians had a quarter of a century ago; that she has listened to lessons which I did not listen to; that she has been taught this—that thus far and no further will the remedies go; thus far and no further will the topical applications go; thus far and no further will mental science go. The time must come in many and many a case, and Dr. Stettler shows very plainly that she knows when the time arrives, that the doctor must apply for help to the surgeon. When patients come to any physician the inclination is to do all that can possibly be done before saying: "I can do no more; I must give you into the hands of some one wiser than I."

A quarter of a century ago I was taught that Sepia in the thirtieth potency would certainly restore a prolapsed, retroverted uterus, and I believed it. The world has gone on very far, and Homœopathy has grown within my memory, and I say proudly to-day that we are second to none in pathology, we are second to none in our knowledge of bacteriology, and we are certainly second to none in the study and the practice of gynæcology. This paper is certainly one of the proofs that Homœopathy as a science, and Homœopathic practitioners have made great and worthy advance in one hundred years.

R. LUDLAM, M.D., Chicago, Ill.: I want to recall one or two little instances in the history of the Institute to show that we are really making progress. When the Institute met in Cincinnati, the first meeting after the war, I proposed that a section, or bureau, as it was called in those days, should be established upon gynæcology, and I was voted down right away; there was not enough of the subject for one bureau, they said. When we met in Boston I had the honor to preside. I fixed up a lecture entitled, "Women and Homœopathy." I tried to show what women had done for Homœopathy by getting it into families and popularizing the thing. After that the question of the admission of women came up. Dr. Dunham made a speech, and with his voice and manner, character and influence, we carried it, and I had the privilege of putting the question for the admission of women into this Institute, and announcing that they were admitted. This is incidental to the point that this department of gynæcology has grown some since they would not accept it at Cincinnati, and to illustrate that Dunham's prediction has been fulfilled—that if we would let the women into the Institute they would help us develop the study of gynæcology.

DR. BECKWITH (rising to a question of privilege): The question of admitting women was defeated in Boston by six votes. It was then carried to Philadelphia, and the speaker was in the chair. I was opposed to the admission of women, but I have been a strong advocate of them in the profession since.

T. F. ALLEN, M.D., New York, N. Y.: *Aude alteram partem.* I want to be an honest practitioner of medicine. If a member of my family gets a cancer of the uterus I don't want a man to get up and say to me: "It is too late now; you have been fooling with Homœopathic remedies." I have heard enough of this talk from Allopathic surgeons. What I want to know of these gynæcologists is, how many more patients of cancer of the uterus will be alive in five years from operative measures than would be alive in five or ten years from internal treatment? What is the ratio? When you say that cancer has got to be cut out or your patient's life is sacrificed, do you tell us the truth? Cancer is not a local disease. One school of pathology says it is; that a local growth undergoes cancerous degeneration. I find it transmissible from generation to generation. I find it preceded by a state of health which allows the development of the cancerous cachexia. I find that condition of general health amenable to internal remedies in many cases, in a distinct percentage of cases. I find that a cancer is a degenerative growth; that it is transmissible in families with certain constitutional tendencies; and I believe that instead of a growth, a benign growth underlying cancerous degeneration in otherwise healthy individuals, that a cancer develops only as the result of a constitutional cachexia which is inherent in the individual, and that this predisposing cachexia is amenable to internal treatment.

Now, if I am all wrong, I want to know it. If the surgeon, by removing a growth which is going to be cancerous if allowed to remain, is going to save my patient's life, and if by treating that case by internal remedies, I am going to contribute to that patient's death, I want to know it.

Professor Wood can undoubtedly answer the question, for he has made that dogmatic, seemingly (to me) egotistical statement, that the surgeon is the ultimate appeal in these degenerative, malignant diseases, and the physician must let them alone.

CHAIRMAN: This question which Dr. Allen has raised is one of great importance. I have already seen three men on their feet to answer him; and, in order to expedite matters, I am going to ask Dr. Wood, Dr. Green, Dr. Pratt, Dr. Ludlam and Dr. Biggar, in the order named, to make five-minute speeches.

DR. WOOD: I shall answer the doctor by stating that in every case which I have operated upon I have had that uterus examined by an expert microscopist. I performed my first vaginal hysterectomy in March, 1866, which I believe was the first vaginal hysterectomy performed by any member of the Homœopathic School.

Since that time I have made in all fifty-eight hysterectomies, both vaginal and abdominal, for cancer. Out of that number I lost five. I have lost sight of ten of the fifty-three patients who survived the primary operation. All may be dead, but this is hardly probable. Of the forty-three patients whom I have been able to locate, in not one single instance has the disease returned. Perhaps twenty of these cases were operated upon within the last two years, and the time is yet too short to pronounce them cured. Of the remaining cases from three to nine years have elapsed, and I think we are justified in pronouncing them cured.

I do not believe that cancer at its beginning is a constitutional disease. It has all the characteristics of a local affection at its onset; and according to the very best statistics which we have, cancer is traceable to heredity in about 7 per cent. of all cases. Whether cancer is of embryonic or of parasitic origin we are yet in doubt, nor is this so important.

Facts speak louder than theories. There are now on record thousands of cases of cancer, proved to be such by the microscope, which have remained perfectly well for years; and we are increasing our percentage of cures because we are getting the disease earlier and we have learned to cut wide of the mark.

Permit me to touch upon a point regarding the prophylaxis of uterine cancer. In at least 99 per cent., according to the best statistics we have, the disease is associated with child-bearing. If lacerations and injuries of the cervix were in all instances looked after, a very large percentage of uterine cancers could be prevented. In my opinion, every woman who has a laceration of the cervix sufficiently great to cause ectropion and cervical catarrh ought to have it repaired, for the purpose of preventing malignancy, if for no other purpose. That is a radical statement, but I venture my reputation upon it, and you will see that within five years the specialists and the progressive men in the general field of medicine will subscribe to this view. I grant you that the disease will not develop until the system is reduced below par, and that any method of treatment, either local or general, which will keep the system at par, will prevent cancer. Let us, however, bear in mind that the internal remedy is not our only therapeutical resource.

W. E. GREEN, M.D., Little Rock, Ark.: Since Dr. Wood has said so well and so completely what was on my mind, I shall occupy your time only in presenting a few facts upon this subject. I did my first hysterectomy for cancer of the uterus in 1888. From that time until 1893 I performed seven operations for cancer. The diagnosis in every instance was verified by the microscope. Of those seven cases every one is alive to-day. From the beginning of my professional career up to 1888, the time that I did my first hysterectomy for cancer, I probably treated medically some fifteen or twenty cases; every single case is to-day in the grave. From the time I commenced to operate for cancer until 1893 I probably saw a dozen other cases that were inoperable; every one of which is dead. When

the first case that I operated upon came under my observation I had two other patients suffering from cancer of the uterus consult me the same week (making three); two accepted my proposition to operate and one rejected it. In six months from the time of refusing the operation the latter was dead. The other two recovered and are still living. From 1893 to the present time I have operated in a number of cases of cancer, and in some of suspected cancer, where I have not been careful to make a microscopical examination; all cases have alike gone on to complete recovery, and I believe that every one will live out their natural lifetime and die from other causes. There are many cases of cancer beyond the hope of recovery that can be benefited by an operation, that can be saved a great deal of pain and suffering; though the disease may return in some other organ or develop in some other tissue, it will not be accompanied with that suffering that inflicts every patient who dies from a cancerous disease of the womb. There are but few diseases that produce such distress to both the patient and friends as does cancer of the womb; patients so afflicted are entitled to surgical attention, if not with the view of curing, then for the purpose of relieving them of the suffering.

I cannot too strongly emphasize the statement of Dr. Wood in regard to the part that laceration has in producing cancer. I believe that in almost every case of uterine cancer that I have examined, the origin of the disease could be traced to laceration of the cervix. We cannot insist too strongly upon having those lacerations repaired as a safeguard against the occurrence of this treacherous disease.

E. H. Pratt, M D., Chicago, Ill.: We are all born into this world with a want, and very few of us get what we want; and it is interesting to watch the different individuals, the different manner in which they will behave under their disappointments; some will get mad, some will get sad, some will grow hard and tough; others will grow mild and gentle and bless the chastening hand. Why is it that one woman with laceration of the cervix will bear it with perfect meekness and seem to dwindle and fade and finally die a little ahead of time, her whole mechanism running down and going to pieces like the One Horse Shay? Why is it that another woman in identically the same condition will take a bad turn and the disease become malignant? It is how we take things.

Dr. Ludlam: It seems to me that we might do well at this stage of the game to settle the question as near as we may as to how much we may depend upon local remedies and local treatment, how long we will be justified in using them and how soon we must take advantage of surgical measures which are radical in their nature. Of course at this time we cannot well be agreed; the experience is not large enough on either side; it is not definite enough on either side. Those who have depended righteously, properly, rightly upon Homœopathic treatment internally exclusively, have not known practically very much about gynæcology. Some of

those who depended entirely upon surgical means have known little and cared less for internal treatment; so there are two sides to this question: we are at a juncture of two issues, and we want to try as far as we can as a school of medicine, to determine the proper orbit for each branch of treatment, when medicine is suggested, when surgery is better, or both are required, to settle this question, and not go too far in either extreme. There are cases which are incurable. It seems to me almost criminal to promise to cure those cases. I think we ought to try to get those who adopt internal remedies not to carry their faith too far, they do injustice to the patients and to the school that they represent. Let us do the best we can with all we have for our patients, whether medical or surgical or miscellaneous, and not hold ourselves strictly to one method or the other exclusively. These statistics that these gentlemen have given us are very encouraging for operating in certain cases, if those cases can be taken early, and I think we ought to give them a good chance. It is not quite fair, I think, to hint that the gynæcologists are not honest and do not desire to do the right thing. We all want to be honest, I am sure, and do the best for all concerned. I am glad for this discussion, and I know it will help put us on the right track in relation to our School and everybody concerned.

H. F. Biggar, M.D., Cleveland, O.: Dr. Allen has raised the question, "Is cancer a constitutional disease?" and he asks the surgeons for their opinion. I believe that cancer is a constitutional disease, developed and hastened by some traumatism, or it may, as some assert, result from a mental shock. Constitutional, as well as surgical, treatment is necessary to complete the cure. Conservatism is to cure your patient either medically, surgically or by medicine and the knife. There are surgical diseases which demand the knife, and there are those which are cured by medication; others demand both. I believe I have seen cancer patients cured by medication, the diagnosis having been confirmed by skilled microscopists. The microscope is not always reliable in determining malignancy. Some of the greatest scientists have made mistakes, as is instanced in the late Emperor of Germany. A portion of the neoplasm was sent to Virchow, who said it was not cancerous, yet many surgeons differed from the opinion of the eminent microscopist. I do not think the microscope is always to be relied upon in determining the true character of malignant diseases. Clinical experience is of more value. It is not surprising that cancers are cured by medication. In the City Hospital in Cleveland, which is under the care of the Allopaths, two of the skilled surgeons told me that two cases of rectal diseases, unquestionably cancerous, were cured by medication. Sir Astley Cooper records a case of cancer of the face cured with powdered oyster-shells. I have seen two cases in North Fairfield, under the care of Dr. Reed, that were undoubtedly, judging from my clinical experience, cancers, and in three years, under the doctor's medication, they were completely and entirely cured.

I saw a case in Akron, under the care of Dr. Childs, with cancer of the uterus and suggested hysterectomy, which he cured by attenuated doses. It is said that cervical lacerations are the most provocative of all causes of cancer of the uterus. I have seen cervical lacerations repaired skilfully and carefully, and within a few years a cancer of the cervix appear. Now, if cancer is a local disease, why did it return, especially when it had been so carefully removed? Evidently there was a repeated traumatism, which, from the constitutional or hereditary tendency, induced this malignant re-development. There can be no doubt in the heredity of diseases; is it not so in scrofula, rheumatism, tuberculosis and cancer? I believe the system is so constructed that if an opportunity presents itself, will develop that which is most prominent. Let me illustrate: There are two persons under a tree sleeping; one escapes with rheumatism, the other with a cough. Why? Because it is inherent, and only wants an opportunity to develop. There is the same cancerous condition in the system; all it wants is an opportunity to develop.

THE CHAIRMAN: We want to hear from the other side, and, after Dr. Runnels speaks, Dr. Allen and the others may close the argument.

O. S. RUNNELS, M.D., Indianapolis, Ind.: We can't get too much light on this subject. I am very thankful to Dr. Allen for raising his side of the question and putting it with all the strength of his personality and fluent diction. We want all the light that can come, and nobody is afraid of the light; the gynæcologists are not afraid of it, I assure you.

Dr. Biggar states the case correctly, I think, when he says you cannot depend with the utmost confidence upon what the microscope says upon this subject. It may be that a portion of the suspected anatomy may not be in the field of the microscope. The specimen may not have been taken from the part where the cells have been proliferated; at the same time the cancer may be there. I doubt very much whether any cancer is cured spontaneously, or by an indicated drug alone. If the proliferation is going on, the death angel is at the door. If you make up your mind that you will try remedies, that you will procrastinate and keep the case under observation, well and good; but it must be kept under observation, it must never be lost sight of; and if your remedies are not prevailing against that condition, it must be attended to in a surgical way. Don't allow yourself to be hood-winked. Don't let the dust get into your own eyes or the eyes of your patients; advise them properly when there is a progressive degeneration going on, and that it had better be given the benefit of the doubt and taken away. I believe every word that has been said about the results after operations. I believe that years have been added to hopeless conditions; while absolute cure was not obtained, many years were added to the span of the life by an operation. I believe that many

lives could be saved absolutely, so that they would never die of cancer, but of something else, if only taken in time. There is very much to be said on the subject, and especially on the prophylactic treatment, both medically and gynæcologically. Cancer is both constitutional and local. Nobody will deny that cancer is hereditary, but I believe the percentage of hereditary cancer is small, and that most of the cancers are individual, have come because of some local irritation. The old pipe in the mouth, making the lips sore, and the irritations in the throats of the distinguished gentlemen, General Grant and Kaiser William, both duly negatived by the microscope, as you will remember, and the various irritations coming on a cervix or on a mamma, are instances in point. Remedies, I believe, have something to do with the cure. If you are going to remove it by a surgical operation, you must cut wide of the affected cells, you must get into safe tissue, you must get beyond the limit of suspicion. So, let us cast down no means of help; let us use the materia medica for all it is worth; but let us not use it so long as to condemn lives to the grave.

THE CHAIRMAN: Dr. Allen will now speak and will not be limited as to time.

DR. ALLEN: This matter is taking exactly the turn I wanted to see. I doubt whether any other man in the country sends a larger percentage of his cases to gynæcologists than I do. Lacerated surfaces I think ought to be repaired as well as lacerated peritonæums; but the question has not yet been answered and I doubt whether it can be. I have seen three successive cases get well under internal treatment; I have seen probably twenty-five die. Recently I have seen one case in which a hysterectomy had been performed, live eight years under internal treatment and die quietly and peacefully; she died while asleep without a pain and without any trouble, under Homœopathic treatment. There is nothing so good as Homœopathic treatment, in my opinion, in these diseases.

But supposing that I get a cancer. Must I immediately have it cut out? Is that my chance of life? One gentleman here has saved 100 per cent. of his cases by surgical measures. In old times a gentleman would get up in this assembly and say he had had hundreds of cases of diphtheria and never lost one. I wouldn't accept that; the gentleman has not yet had enough experience. I read of statistics of 10 per cent. or 15 per cent., as I get them from Allopathic sources, especially of cancer of the uterus, in which after, say five years, they have not returned, and I am glad to see that percentage. I do not know yet that Homœopathic treatment will equal that even, and I am pretty sure it will not equal 25 per cent., as some surgeons claim and some gynæcologists claim. But I am not yet satisfied that the early removal of cancer is the proper course. It is not well established that cancer is a local disease. We will give you the benefit of the doubt; we will do everything we can, but it is not

yet proved that it is local, and I am not entirely unmindful of the statements of pathologists. I am one of the men who want to know things and want to know exactly what to do. A woman, for instance, has an induration of the cervix and we think there is scirrhous degeneration going on, or an epithelioma; I think it is more likely to be a local disease; but it is terrible to see the woman die by inches, and to feel yourself you have not done your duty. I wish these gentlemen could enlighten us. I want to know. I am not opposing this matter. I want to know for the benefit of my patients. It is not Homœopathy with me; it is the saving of life. I stand on that ground. When they say sometimes, "Do the best we can," I do not think it always means surgery; I think it sometimes means Homœopathy. It is a question between the best medical treatment and surgical treatment. When the surgeon says, "You have lost your chance and killed your patient" I can't stand it and sleep nights. If I am wrong in this matter to let my patient go under Homœopathy I want to know it; but statistics of 100 per cent. do not convince me. Gentlemen say, sometimes give medical treatment and sometimes surgical treatment; I can not decide. Dr. Wood comes squarely up to the mark and answers in a straightforward manner. His experience so far has been favorable, and after some years, perhaps, we will be able to decide the question.

DR. RUNNELS: I would like to ask you a question: Supposing there is a suspicious case, and you note from month to month there is progressive degeneration going on, What are you going to do? Just how long are you going to adhere wholly to medication? Will you persist with internal remedies to the exclusion of every other line of treatment?

DR. ALLEN: I will tell you. A woman came to me with trouble in her rectum. On examination of the rectum with my finger I found a hard, irregular nodule, and her defæcations were extremely painful, she was passing blood and a little mucus. I took her to a pretty good specialist in New York. He took me one side. He said: "Your patient is doomed; she has cancerof the rectum," and stated that an operation was the only thing that could be done for her. I said: "Will that cure her?" "Well," he said, "it will give her comfort and prolong her life. It will probably come back; they generally return in the liver." So I told this good woman that the doctor thought there was a degeneration, and that by having an operation her chances of suffering would be greatly lessened. She had a horror of the knife and said: "Let us try for the summer." I said, "We are losing time, and if you feel by and by that you neglected this matter I shall feel sorry myself." But she said, "No, I want you to prescribe for me and we will wait." I could not say any more and I prescribed for her, studied her case as carefully as I could and gave her Magnesium muriaticum. Magnesium muriaticum had no relation to the scirrhous degeneration of the wall of the rectum, but I gave it on ac-

count of the symptoms of distress in the evacuation of the bowels, on account of the hepatic symptoms. Here was the symptomatology pure and simple. She began to have easy movements; the blood and mucus disappeared from the passages, and within a year the rectum became absolutely healthy. I showed the case to the specialist and he said: "What has become of the cancer?"

A MEMBER: Did you have a microscopic examination?

DR. ALLEN: No. We cannot take those cases in their incipiency and make an examination; we must get the stroma of the cell tissue.

DR. WOOD: Did you understand me to say I had saved 100 per cent. of my cases?

DR. ALLEN: No, I believe it was Dr. Green; but your percentage was extremely gratifying.

DR. WOOD: There were ten of those cases; I ought to say in explanation that I also said that 66 per cent of the cases, which came to me in one year that I kept track of, were inoperable, which goes to show that I do not remove a uterus, where I think the disease has progressed beyond the body of the organ, where I think I cannot remove all the local disease. I have classified as inoperable many cases which a good many surgeons would operate upon, and for that reason my percentange was very encouraging: I attribute it largely to that fact.

DR. ALLEN: I would like to ask the doctor whether in case of incipient degeneration of the body of a uterus, suspected to be malignant, he would unhesitatingly advise extirpation?

DR. WOOD: Not right off. I would certainly resort to certain expedients well known. I lay this down as a dictum: In a case with persistent hæmorrhage and a suspicious discharge in a woman from 40 to 50 years of age, in which that hæmorrhage or that discharge cannot be accounted for by disease other than malignancy, and which is not controlled by a thorough curetting, the uterus should be removed forthwith, for in ninety-nine cases out of a hundred incipient malignancy is at the bottom of the difficulty. I cannot agree with Dr. Biggar that the microscope is of little use in determining malignancy after the entire organ is removed, if the disease is at all advanced. The microscopist who is then unable to detect malignancy is not a microscopist—he only thinks that he is.

DR. ALLEN: If you were satisfied that it were malignant you would unhesitatingly recommend an operation?

DR. WOOD: Yes, sir.

DR. GREEN: I wish to correct a statement made by Dr. Allen, who has seen fit to throw some discredit upon my statement. I suppose he referred to me in his remark of doubt concerning 100 per cent. I do not believe my friends, who know me well, and who have personal opportunities of inspecting my surgery, would accuse me of making a false statement.

DR. ALLEN: Oh, no, doctor.

DR. GREEN: There is nothing personal in this at all, and I have no unkind feeling in the matter; you have made a statement that I feel called upon to correct. I simply want to put myself on substantial ground. I stated that I had treated between fifteen and twenty cases of cancer of the uterus before I ever operated on a case. The correctness of my diagnosis was proven in every instance by the death of the patient. In 1888 I had three cases where the diagnosis of cancer was made. I submitted specimens to the microscope. They had the offensive discharge and all the appearance of cancer. I operated upon two of them, they both recovered. The one that did not accept an operation died within six months. Why should I have made a mistake in the other two cases and not in that? Now, if I have correctly diagnosed fifteen cases, all having died, why should I have made a mistake in the diagnosis when I began to operate? I want to say that those seven women, referred to in my previous remarks, are living in my town to-day and I can give their names and addresses. I might say, in addition, that some of those cases were examined by surgeons of prominence in the Old School, and they had also diagnosed cancer. I tell you, gentlemen, this is a serious question; it is a question that involves the lives of many women. In many instances they will decide for themselves. Usually when you make the statement, "Madam, you have a cancer," the woman will not hesitate, she will in fact ask for an operation; nay, demand it.

In the other cases that I have operated upon since 1893 I have been operating for so many conditions, and have not always been careful about my diagnosis, therefore do not know just what the result will be, but those seven cases are living monuments to the honor of operative surgery.

Where a diseased condition of the cervix exists sufficient to cause a suspicion of cancer, you will always find the tubes and ovaries more or less affected, if only strong suspicion exists you are perfectly justifiable in removing the organ. It should be removed.

D. H. BECKWITH, M.D., Cleveland, O.: I have been greatly interested in this discussion, for I have been intimately associated with those who used the knife for many years, and for the same kind of cases that have been referred to by Dr. Runnels.

Dr. S. R. Beckwith, Dr. N. Schneider and Dr. H. F. Biggar have been prominent surgeons for many years. I have had the opportunity to examine and consult in reference to cases where opera-

tions were performed. I have also seen cases that were pronounced scirrhus that have been cured without the use of the knife.

Surgeons become sanguine and enthusiastic over the use of the knife until they reach a certain period in life.

All young surgeons are enthusiasts, and report wonderful results.

I have great confidence in the use of medicine, and well know that many cases where operations have been recommended by good and practical surgeons as the only method of cure have been cured by medication and hygiene.

A lady from Akron, Ohio, consulted me some eight or nine months ago in regard to a serious condition of her breast.

She also consulted two of the leading gynæcologists in our city, and both advised an immediate removal of the mammary gland as the only chance to prolong her life.

She went to a Homœopathic physician in the State of New York, who has been treating her since. Her husband and her physician in Akron have pronounced her nearly well.

I saw the case a few days since and was astonished with the result of medication.

I have several cases under treatment, and as long as they continue to improve am satisfied to continue my prescriptions, believing that in time they will entirely recover.

I can call to mind in Cleveland many failures in cases where operations have greatly shortened the lives of the patients. I admit that neither surgeons nor physicians are consulted as early in the cases as they should be. If they did the mortality would not be great either by medication or by the knife.

In all cases the hygienic surroundings have much to do with the recovery of the patient.

T. C. DUNCAN, M.D., Chicago, Ill.: It seems to me that this question is so important, so interesting, to any and every physician in this American Institute, whether he is a surgeon, gynæcologist or an ordinary practitioner of the school, that the subject should receive a thorough study and collated experience. The speeches that have been made are made on the spur of the moment. We give part of our experience.

I could give you a family history in which two members died of consumption, two died of cancer, one after an operation, two are alive, one has been operated upon once for cancer of the breast, and will have to be operated upon again, and one with scirrhus has been treated by medicine alone internally, Ars., and locally, Hydrastis. After a diagnosis of scirrhus of the uterus she is still alive, but what the result will be no one knows. She is the most promising of the whole family. But I think we should go farther and get facts. When the time comes I would like to introduce a resolution something like this: *Resolved*, That this section recommend that the subject of cancer be selected by the sections of clinical medicine and pathology (those who have kept track of the pathological ideas of cancer for the last thirty years know that the

ideas have been shifting), and materia medica, for I believe that our remedies can do something here, and gynæcology next. Let these three sections take the subject of cancer and let the whole Institute be arrayed in three different camps, and then we will get something I think that will be of credit and of interest and of value to the whole profession.

H. W. PIERSON, M.D., Chicago, Ill.: I am one of those who would like to defend the principle we have taken as the guide and sheet-anchor of our work, and I am always one of those who would like to defend those who, through their limited knowledge, have made it necessary for expert men to use mechanical means to undo or remedy the serious results of those who fail to become experts in the knowledge of that which could come to each and every one of us. To-day we have surgeons, to a large degree, simply because those who pretend to believe in Homœopathy have failed to make themselves masters of the situation, have failed to recognize in the manifestations of disease that which should be as plain as a b c. If you will study the cases that come to you (I am speaking of the ordinary physician), if you will study your cases as they should be studied, you will find certain tendencies, certain idiosyncrasies, certain things that would help you to a proper knowledge of the tendency of disease, whatever it may be, and with this knowledge of these tendencies you may be able many, many times to arrest the condition before it passes into that necessary state when we must have some palliation, some radical means or what?—simply postponing the inevitable result. You know that every man born must die, and you know that the life of each and every individual depends largely upon environment and the other means taken for keeping in close conformity with the laws of nature. The surgeon has his legitimate field, and we are exceedingly fortunate that these surgeons have become such experts that they may undo the unfortunate sad results of those who are not experts in that department, and if we can bring this matter, as it properly should be brought, to the attention of our young men and our old men we will be able to show results that will be in fair compensation of principles that we believe to be strictly true.

GENEVIEVE TUCKER, M.D., Pueblo, Col.: Some one has said that "he who *sees* and can tell what he sees in a clear, plain way helps the world to move forward." All through Colorado the medical profession, both Homœopathic and Allopathic, see this, that the persons who come to our State for tuberculosis, and who improve, frequently in twelve to fifteen years develop either cancer or Bright's disease; the men more frequently have Bright's disease while the women will have cancer, and invariably a history of traumatism can be found in these cancer cases. I have seen one such case that I wish to relate to you this morning.

Three years ago there walked into my office a magnificent looking woman who gave me this history: Twelve years before she

had been sent to Colorado for tuberculosis, being told if she did not improve she could not live a year; the improvement was rapid, she had apparently been strong and well, had continued her residence in Colorado, married and borne three children, and I found had suffered a traumatism of the cervix uteri. She was now approaching the menopause and had come to be relieved of her ill feelings. I was horrified on the pelvic examination at the cancerous condition of the uterus. I at that time was fresh from postgraduate study in New York city, I had seen much of operations and knew when to operate. It had been pointed out to me, reiterated over and over that these cases should be operated on early for results. I do not know a surgeon, Allopathic or Homœopathic, that I could have taken that case to but what would have said operate immediately for cancer. I had had such constitutional disease brought out in the history of the case that I feared and could but question if an operation would do any permanent good. Dr. Runnels tells of his long walk at 2 A.M. to the hospital *after* operating for laparotomy, but my walk was in my office for half a night *before an operation* and to decide on one of two things, whether in giving that patient medical treatment I was going to abuse her confidence by trying to cure a condition that was not curable, or whether I referred her at once to the surgeon for a hysterectomy as the only just course. I decided, after going over the pros and cons of an operation again and again, because of the many constitutional symptoms, against an operation and hunted my materia medica for the remedy. Natrum sulph. was given in the 12th trit. To the gentleman who spoke before me and referred to the cachexia of cancer, I wish to say, a few weeks after this woman consulted me I had an outing with her in the mountains; we met a prominent physician of our State who knew nothing about the case, and one day said: "Doctor, the woman with you has a cancer, never such a skin as that without a cancer." The first improvement locally was followed by the enlargement of an old goitre that she had forgotten all about ever since leaving her eastern home years ago for Colorado.

The improvement in the uterine trouble has corresponded to the aggravation of the goitre. This has shown the constitutional character of her disease. To-day I know not to what surgeon, Allopathic or Homœopathic, I could take my patient who would even *think of an operation for a cancer.* We keep a daily record of that goitre, and only repeat our remedy now when it enlarges.

DR. SILVER: Dr. Wood stated that where he suspected cancer he would not operate at once. My question is this: How much time would he allow to intervene before he would operate? How much time would he be willing to give to remedies and other treatment?

DR. WOOD: The doctor evidently misunderstood me. I should not lose twenty-four hours' time if I were sure of malignancy. It is simply the doubtful cases. Where there is cancer of the cervix,

we can painlessly remove a section under cocaine, and can get enough of the tissue to determine in almost every instance whether or not it is malignant.

Just one more word in conclusion: I want to express a thought that I believe every gynæcologist and every surgeon will second. If Dr. Allen were doing an exclusively gynæcological practice, and met with from one to three cases of uterine cancer a week, and if two-thirds of these cases were inoperable because they had passed beyond a certain stage, he would feel this matter very keenly; and I do not believe he would hesitate for one moment to recommend the knife.

H. W. CHAMPLIN, M.D., Towanda, Pa.: I want to say just one word in behalf of the medical treatment. I will risk the opinion that not one in a hundred of the cases of cancer that come under Dr. Wood's care have had the Homœopathic treatment that Dr. Allen is qualified to give. Now let us have such skilful medical prescribing against skilful surgical treatment, such as Dr. Wood or Dr. Green is competent to give.

THE CHAIRMAN: It is true that about two cases out of three come to us too late. Now, I hope when Dr. Allen speaks he will say something which will enable the general practitioner to know when to stop medicines and when to send the case to the surgeon.

DR. ALLEN: I want to answer Dr. Wood's question. He says when he finds a hopeless case, what is he going to do?

DR. WOOD: Palliate; make her as comfortable as possible with Homœopathic remedies and proper local treatment.

DR. ALLEN: If the gynæcologist will recognize that the hopeless case will probably die from recurrence of the cancer, and thereby their statistics will be vitiated, and that the Homœopathic physician and Homœopathic prescriptions will doubtless do more for those cases than any possible surgical measure, those cases will live longer, they will live with less pain and will die easier under Homœopathic treatment, and these gynæcologists can be spared the reduction of their valuable statistics. So much they ought to concede to us.

In answer to the Chairman's question, if it be conceded, if I may come to the conclusion that it is not my duty to send a case of cancer the moment it be decided to be such, and I make up my mind, or any of you make up your minds, that to do what is best for the patient, it is not advisable to send it for an immediate operation, as Dr. Wood says, within twenty-four hours. I will concede this—that it shall be within my duty to my patient to endeavor for a few weeks (perhaps for a month, I don't know exactly what length of time should be given) to try the effect of one single prescription

even for two or three weeks. One is too short for such a case; give two or three weeks, and if at the end of that time the prescription shall fail to produce any appreciable diminution in the patient's sufferings or to have any effect upon the disease, the prescription being given prayerfully and studiously (I mean every word I say reverently), it is my opinion that we ought in such a case to have a consultation immediately with the gynæcologist to settle the possible procedure from his point of view; we shall meet together amicably, and I shall say, Doctor, give me a couple of weeks, and then come again; if the case be a little better, let me have it two or three weeks longer; I should feel willing to compromise on that point, and feel that I could sleep nights and say my prayers; I think that would be something like fair play.

DR. PARMLY: Dr. Allen's question is still unanswered. I had hoped that some of the many gentlemen who have preceded me, who are perfectly and abundantly able to answer his question, would have answered it definitely. I sometimes operate and sometimes let the cancerous patients and the patients with all severe forms of disease alone. But now let us recur to the subject of uterine cancer. There is a dividing line, and that dividing line has not yet been mentioned. I have had to answer this question a great many times. For instance, a case of uterine cancer, far advanced, was referred to me not four weeks ago. The gentleman had had the case under observation for over three years. In all those three years there had been flooding, for over a year there had been an offensive discharge from the uterus. He had never made an examination until two weeks before the case was brought to me. Now then, where is the dividing line? What ought the general practitioner to know? What ought he to do before he takes his case to the specialist? He ought never to allow a uterus that is suspicious, no matter what his internal remedies may be, and he may use them up to that point, to fail to be examined frequently to see whether it is becoming markedly immobile in the pelvis; that is the dividing line. You may call a case inoperable after it has become fixed. The dividing line ought to be whether the uterus is becoming fixed or is still mobile.

THE CHAIRMAN: This discussion, to me, has been most valuable. It has been decided, it seems, that before it is too late, cancer cases should be referred to the surgeon. I should say, do not wait until the uterus is immovable. We might infer from what has been said that operation might be postponed until the organ becomes almost immovable. We do not want our cases delayed until that time. Now, when shall we have them operated upon? I would accept Dr. Allen's plan, which, I believe, is the conservative and proper course to pursue. Just as soon as the physician finds that he is unable to control the case by medicine, while the disease is yet in its incipiency, when there is yet a nodule and the physician is able to dig into it with the nail, when the mucous membrane has a yel-

lowish tinge and he can remove it easily, when the cervix has just begun to expand, *then operate.*

It is proper to use medicine for the brief period that Dr. Allen suggests, and if the general practitioners would always examine their cases, and while yet in their incipiency, send them to the surgeons, they could always operate, and save 50 per cent. of the cases which now come to us as hopeless.

Dr. Stettler may now close the discussion.

DR. STETTLER: The eminent gynæcologists and physicians have answered each other so well that it is not necessary for me to say anything further, except to add that my plea was for the middle ground and a more thorough knowledge of gynæcological pathology and therapeutics by the general practitioner.

THE CHAIRMAN: Before we adjourn, I want to thank Dr. Stettler, on behalf of this section, for her most admirable paper. We will now stand adjourned until next Tuesday morning.

Status of Antisepsis in the Homœopathic School.

By James C. Wood, M.D., Cleveland, Ohio.

We are living in an age of medical fads and medical innovations. Hardly a week passes that some new theory of disease, some new surgical operation, some new method of diagnosis, or some new "cure all" is not announced. The medical profession as a whole, while constantly calling attention to the abnormal credulity of the laity, is itself credulous to an extreme degree. Fads have come and fads have gone, and doubtless fads innumerable will dot the medical horizon for countless ages to come.

While the older school has been, and is, ever seeking for therapeutic methods which are universally applicable to given diseases, Homœopathy has kept on in the even tenor of her way, so far at least as internal medication is concerned, and still believes that she has the best and most universally applicable law of cure yet enunciated. However, as a school, we have witnessed during the last decade the rise and fall of so many vaunted "specifics" that we are in danger of having our normal receptivity transformed into abnormal incredulity.

Truth, wherever found or by whomsoever disclosed, is the exclusive property of no man or no set of men; and, for humanity's sake be it said, the code of all schools of medicine justly brands him, who would for personal aggrandizement conceal any therapeutic procedure of benefit to humanity, as a charlatan and an impostor. I have but little use for the man who will cast aside well-tried and oft-proved methods and chase every therapeutic *ignis fatuus* which comes within his range of vision; and I have still less use for him whose faith is so fixed in some therapeutic dogma that he can see nothing which is without the pale of that dogma. Either is a dangerous man to tie to, and the time is rapidly approaching when an intelligent public will so judge him.

I have indulged in the foregoing prelude for the purpose of giving what seems to me the explanation of the opposition which exists in certain quarters, largely in the Homœopathic School, to the doctrines of antisepis. There are men who seem to fear that the law of similars will go to the wall if the germ theory of disease, upon

which antisepsis is based, is fully established. These gentlemen do not seem to realize that the whole genius of antisepsis consists in the *prevention*, rather than in the *cure*, of disease. But antisepsis, no matter to what department of medicine it is relegated, has outlived its experimental stage. It has come to stay and is to be with us for all time.

Asepsis is but the fruit of antisepsis. There is not an advocate of antisepsis living who would resort to chemical germicides if he thought that perfect asepsis could be obtained without their use. That this is not possible is the consensus of opinion of at least 99 per cent. of the practical surgeons of the world.

I cannot in this paper discuss the so-called germ theory of disease. My chief object is briefly to consider and to rebut the arguments which the opponents of antisepsis put forth. These may be stated as follows:

1. That certain prominent surgeons still ignore antisepsis *in toto*, with results equal to those obtained by the most rigid disciples of antisepsis.

2. That certain dangers attend the use of chemical germicides which more than offset any good which may come from their use.

3. That it is possible by internal medication and hygienic treatment to so favorably impress the system as to make the multiplication of organisms within the body harmless or impossible.

1. That certain prominent surgeons still ignore antisepsis *in toto*, with results equal to those obtained by the most rigid disciples of antisepsis.

Lawson Tait is the one man above all others who is quoted as the chief anti-antisepsis apostle. He is referred to by big men and small, who still contend that the germ-destroying agents are unnecessary. Very few of the men who so persistently quote Tait in this connection have seen him work. On the other hand, I cannot at this moment recall one surgeon of prominence in this country who has seen him operate who is not a firm believer in antisepsis. That Tait is a remarkable surgeon his worst enemies will admit; and it is his wonderful dexterity which has, in my opinion, enabled him to accomplish the results which he has accomplished in the old-time way. However, while this surgeon may be more than ordinarily successful in the saving of life, he is not an ideal surgeon. One has but to go from his clinic to the clinics of such men as Martin, of Berlin, or Leopold, of Dresden, to become a firm believer in antisepsis. The English surgeon is slovenly, his wounds are

frequently infected, and he uses drainage often. The Germans are clean; pus in the healing of wounds is almost unknown to them, and they rarely resort to drainage. The contrast is most striking and the conclusions inevitable. Bantock, who is also frequently quoted as opposed to antisepsis, is a thoroughly clean operator, and may well be dubbed the apostle of asepsis. That Bantock's results are good no one will deny: that they might be better were he to practice antisepsis is not improbable. At any rate, one is impressed with his extreme cleanliness. Now, why this extreme cleanliness? The question is certainly a pertinent one, and cannot well be answered without admitting the probable correctness of the germ theory of disease. If, then, more perfect asepsis can be obtained by germ-destroying agents, and if the use of such agents is unattended by danger, is it not better to be on the safe side, and use them? Tait is at least consistent, and permits the germs to fight their own battle after entering the system. Bantock is clean because he desires to prevent germs and infected matter from entering the system. I believe, from personal observation and from what others have told me, that both of these gentlemen have to contend with pus much oftener than do modern antisepticians.

2. That certain dangers attend the use of chemical germicides which more than offset any good which may come from their use.

I do not deny that harm has been done in the past by the so-called chemical germicides. In the early days of Listerism the stronger solutions of Carbolic acid and Bichloride of mercury were used, and many cases of poisoning were reported. Then, too, the chemical antiseptics were introduced into parts of the body where we would not think of introducing them at the present time. The peritoneal cavity was irrigated with the Carbolic and Mercurial solutions; the same solutions were applied directly to the meninges of the brain; the uterine cavity was douched with Mercuric solutions as strong as one to one thousand; and, when used in any of the natural or artificial cavities of the body, suitable drainage was not provided for. It was not strange, under the circumstances, that Mercuric and Carbolic poisonings were common. It was difficult for Lister and his early followers to comprehend, at a time when bacteriology was in its infancy, that Mercuric solutions of the strength of one to five or ten thousand could possess germicidal properties.

Time has taught us many things regarding antisepsis. All antisepticians now admit that heat in some form is the best of all germ-

destroying agents. Unfortunately, it cannot be applied to living tissues when primary union is the object sought for; and I believe that the application of the actual cautery to pedicles highly endowed with nervous tissues, and to the lower orifices of the body, is to be deprecated. It can, however, be utilized in the sterilization of instruments, dressings, ligatures and water, so that the stronger solutions of the chemical agents can be reserved for the hands and skin surfaces, while the weaker ones only are to be used in open and extensive wounds. These are the general principles of antisepsis as practiced by the rank and file of the practical surgeons of the day. By observing these principles no serious harm will follow in the train of the germ-destroying agents.

Occasionally cases will be met with of peculiar idiosyncrasy which will manifest toxic symptoms even though every precaution is observed. Fortunately we are now sufficiently familiar with toxic symptoms of the germicides in general use to enable us to recognize them at their very onset, and to withdraw the active agent before the system is profoundly impressed. Compared, then, with the statistics soon to be presented, the danger attending the intelligent use of antiseptics deserves little more than passing notice.

3. That it is possible by internal medication and hygienic treatment to so favorably impress the system as to make the multiplication of organisms within the body harmless or impossible.

No one will, I think, dispute the advisability of getting the system into as perfect working order as possible previously to the operation. This goes without saying. Unfortunately, however, the surgeon many times has to work under the most adverse circumstances for all parties concerned—except the germs. Perfectly well people rarely submit to the surgeon's knife. The system is often surcharged with pus; or the tissues are so affected by long-continued disease that they offer but feeble resistance to the entrance and multiplication of living organisms. Undoubtedly proper hygienic and internal treatment, combined with certain sustaining and eliminative measures which are now well known, is of the greatest utility. So, too, are certain remedial agents efficacious in the treatment of scarlatina; but because this is so no sane physician would be so foolish as to expose his child to scarlatina if he could prevent such exposure. I do not believe that I am carrying the philosophy of analogy too far in making this comparison. I am assuming, of course, that both surgical fever and scarlatina are due to specific germs—a theory which has more of the evidences of truth on its positive than on its negative side.

Unquestionably, the diminished mortality in surgical work can be attributed in a measure to improved technique; but this can hardly be said of certain operations, notably amputations. Let the reader compare the old *régime* in amputations, with its from four to eight weeks of suppuration, with the present method of ten days' undisturbed dressings and pusless union. The technique of amputations—so far as mechanics are concerned—is practically what it was twenty years ago, and the more favorable results can only be accounted for by the application of antisepsis. Such, at least, seems to me the logical conclusion to which any unbiased investigator will come if he start from proper premises. It matters but little to the practical surgeon whether streptococci and other forms of bacteria are the *cause* or the *result* of pus. Sufficient for him is the fact *that they are found with pus, and that by resorting to certain precautions implied by the term antisepsis, both germs and pus can be excluded in the healing of wounds.*

Finally, the ultimate test of all systems and methods of cure or prophylaxis must be the results obtained. What has been said of amputations applies with equal force to nearly all operations. Antisepsis has wrought a revolution in surgery. It has reduced the mortality in cœliotomies from 75 to less than 5 per cent. It has, according to the latest statistics, diminished the mortality in breast amputations from 20 to 1 per cent., notwithstanding the fact that the modern technique in this operation is infinitely more complicated and destructive than it was in the older operation. It has begot a degree of confidence on the part of the surgeon which has led him to explore, and with comparative impunity, almost every organ and part of the body, the brain not excepted; such explorations having resulted in numberless operations and cures, which, a few years ago, were not dreamed of even by the most sanguine. It has robbed the lying-in room of much of its former terror, and it has reduced the death-rate from so-called puerperal fever in certain lying-in hospitals, from 40 to one-half of 1 per cent.

The foregoing data can be verified by any one caring to take the time to investigate the subject himself. The evidence going to prove the value of antisepsis would seem to be overwhelmingly convincing to even a casual investigator. However, the fact cannot be ignored that a very large per cent. of the general practitioners of the country are skeptical regarding the claims set forth. This skepticism is based on personal experience. Many of these gentlemen follow, after a fashion, the rules of antisepticians, but they have to

contend with suppuration nearly, if not quite, as often as before the age of antisepsis. Their failure can be accounted for in two ways:

1. As general practitioners they are constantly coming in contact with contagious, infectious and septic diseases, which makes perfect disinfection of the clothing and body exceedingly difficult, and oftentimes impossible.

2. Many of them do not fully comprehend the genius of antisepsis, and consequently carry out its principles but imperfectly.

1. Very few general practitioners, especially in rural regions, can get on without doing more or less surgery, and it is right that they should do it. However, for the reason given, I contend that capital operations, other than acute cases, and especially those involving the peritoneal cavity, should be assigned to the exclusive specialist. Medicine is now too comprehensive a science to be covered by any one man. Indeed, it requires more than the ordinary mind to keep apace with the literature of any one of its several departments. The general practice of medicine constitutes in itself one of the most important of the specialties, and affords innumerable instances for the intelligent application of the principles of antisepsis. Much which has been accomplished in the field of preventive medicine has been done through the intelligent use of antiseptics, and the physician who to-day ignores antisepsis and antiseptic agents in the treatment of disease, either medical or surgical, is in my opinion depriving his patient of one of the most valuable of modern discoveries.

2. The successful antiseptician must constantly bear in mind that, like a machine, antisepsis is no stronger than its weakest part. In a given operation, the operator may rigidly carry out all antiseptic details with one single exception, which exception may contaminate his wound and spoil the operation. It requires an endless amount of work to apply successfully the principles of antisepsis. No one can master these principles without a working knowledge of bacteriology. He must know, first of all, the relative power of the several germ-destroying agents, and their effect when applied to the living tissues. He must know the probable sources of wound infection, and he must know how best to make the field of the wound aseptic previous to the operation, and how best to keep it free from harmful organisms during the healing process.

Time forbids an extended discussion of the details suggested by the several requirements given. I shall but briefly consider a few general principles:

(*a*) The agents employed should be those which bacteriological research has shown to be germicidal. Only the weakest possible solutions known to possess germicidal properties should be used in open wounds. Under no circumstances should the stronger solutions of Mercury or Carbolic acid be left in natural or artificial cavities of the body.

(*b*) The operator and assistants should guard their persons in every way from infection. The abdominal surgeon should never come in contact with contagious or infectious diseases of any kind. Frequent bathing of the entire body is necessary. In the event of contact with any of the contagious or infectious diseases, Corrosive sublimate (1–2000) should be used to cleanse the person. No clothing which has been exposed to infection should be worn in the operating room. During the operation, sterilized gowns should cover the clothing. The head should be covered with sterilized gauze. The hands of the operator and assistants should be prepared, after the method of Kelly, by washing them respectively in saturated solutions of permanganate of Potash, Oxalic acid and Soda, and then for five minutes in a 1–1000 Mercuric solution.

(*c*) The patient should be prepared, when possible, by having a bath the night before the operation; the alimentary canal should be emptied and the lower bowel washed with an enema not later than two hours preceding the operation. The field of the operation should be thoroughly scrubbed with a 1–1000 Bichloride solution at the time the bath is given, the parts shaved and a 1–1000 Bichloride compress placed over them. In operations within the genital tract, or the abdomen, the vagina should be packed with iodoform gauze.

(*d*) In operative work outside of hospitals a room should be selected possessing a good light—preferably with a southern exposure. Inquiry should be made as to whether the room has been recently occupied by contagious or infectious diseases. If an abdominal section is to be made, old paper should be removed, the walls and floor washed with a 50–1000 Carbolic solution, and followed by Sulphur disinfection. All matting, curtains, tapestry and unnecessary furniture should be removed.

(*e*) Heat is the best of all agents for sterilizing instruments, towels, dressings and water. Instruments are sterilized by boiling for ten minutes in a 1 per cent. solution of Carbonate of soda. Dressings may be sterilized by either dry or moist heat.

(*f*) Silver wire, silk and silkworm-gut may be sterilized by boil-

ing. The only absolute method of sterilizing catgut without injuring it is by boiling it in Cumol, according to the method of Kelly.*

(*g*) Sterilized gauze and cotton sponges should largely supplant sea sponges, because they are readily sterilized by heat. Sea sponges should be prepared according to the method of J. Greig Smith,† and should be used at once.

(*h*) The field of the operation should be frequently scrubbed in a 1–1000 Bichloride solution immediately preceding the operation, and the parts shaved the second time. Wounds outside of the peritoneal cavity should be constantly irrigated or sponged during the operation with a 1–5000 Bichloride solution. The wound should be dressed with Iodoform, Iodoform and Bichloride gauze, and sterilized cotton, which are to be kept *in situ* by means of straps, bandage or Collodion.

(*i*) In the after-treatment of all surgical cases, everything coming in contact with the wound should be *thoroughly sterilized.* Post-operative infection is most common. The extreme precautions taken during the operation will avail the surgeon but little if his nurse or assistant is careless in subsequent handling of the wound. As a rule, the dressings do not have to be removed for ten days, when, if no infection has occurred, union will be complete.

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* *Preparation of Catgut.*—1. Cut the catgut into desired lengths, and roll twelve strands into a figure-of-eight, formed so that it may be slipped into a large test-tube.

2. Bring the catgut gradually up to a temperature of 80° C., and hold at that point for an hour.

3. Place the catgut in cumol, which must not be above a temperature of 100° C., raise it to 135° C., and hold it at that point for an hour.

4. Pour off the cumol, and either allow the heat of the sand-bath to dry the catgut or transfer it to a hot-air oven, at a temperature of 100° C., for two hours.

5. Transfer the rings with sterile forceps to test-tubes previously sterilized, as in the laboratory.—*Johns Hopkins Hospital Bulletin*, February-March, 1896.

† *Preparation of Sponges.*—The sponges are frequently washed in water for the purpose of removing all sand and dirt. This requires several days. They are next soaked for three or four minutes in a 1 per cent. solution of permanganate of potash. The permanganate is then washed out by repeated squeezings in fresh water. Next they are placed in solution of sodium hyposulphite, of the strength of a half-pound of the salt to a gallon of sterilized water, to which an ounce of oxalic acid has been added. Finally, they are washed in cold sterilized water, dipped in a 5 per cent. carbolic solution, and dried. They should be kept in a perfectly-tight glass jar until used, when they are to be again washed in a 1–1000 bichloride solution, and then in sterilized water.

DISCUSSION.

R. LUDLAM, M.D., Chicago, Ill.: I can indorse most heartily every word of the paper, it is a very valuable paper and it deserves a very full discussion. If there is any one here who does not believe in antisepsis they had better get up here and see if they cannot be converted. This is a great move towards saving human life.

T. G. COMSTOCK, M.D., St. Louis, Mo.: I do not arise to discuss this paper because it don't need any discussion. Every word which the doctor said I can indorse. I practice antisepsis, first employing sterilized water, and if necessary I may resort to other medicaments, such as Lysol, one-half to one per cent., and sublimate 1–5000.

WM. C. RICHARDSON, M.D., St. Louis, Mo : Many failures reported as the result of antiseptic treatment are not due to lack of antisepsis during the operation, but to the neglect of it after the operation is over. We should be very particular about every little after detail because the post-operative measures are just as requisite to success, if not more so, than those employed during the operation.

G. W. BOWEN, M.D., Fort Wayne, Ind.: I do not believe that you can use these strong chemical preparations without doing damage in many cases. I think that cleanliness is the main thing to observe. I have found diluted vinegar to be a very valuable remedy to use in wounds to keep down inflammation. I never use carbolic acid. Vinegar antidotes many of the infectious substances and it can be found any time, any place and anywhere. It will do the work equally as well as anything else.

S. LEAVITT, M.D., Chicago, Ill.: I believe that antisepsis has come to stay; but we should learn to distinguish between asepsis and antisepsis. While in England six years ago I was privileged to see much of Tait's work. He was opposed to antisepsis and I believe that he was sincere in his convictions. I have seen him come in from the country with dirt and dust on his hands, and, with very little preparation, go into the operating-room and perform two or three laparotomies. His assistants were required to wash their hands in an ordinary wash-bowl and slip on a rubber apron, nothing more. He would come into the room, pour a little turpentine on his hands, wash them in the bowl used by others and go to work. But Tait's methods are a thing of the past. You will hear no more of him or them. His assistant, Mr. Christopher Martin, is a firm believer in the strictest precautions.

I have nothing further to say except in reference to the sterilization of catgut. I prefer Bœckmann's method. Selected gut is made into coils, placed in envelopes and subjected to dry sterilization, the heat being gradually raised to 240° F., and is there maintained for three or four hours. Catgut prepared in this way is not brittle and can be used without being put into any solution.

W. S. BRIGGS, M.D., St. Paul, Minn.: This catgut to which Dr. Leavitt refers has been used almost exclusively in surgery in St. Paul, and as he says, it comes ready for use. It is much stronger than any other kind I have seen. We asked a number of the Old School if they had had any trouble with it and they said no. It is prepared by being cut into pieces 20 and 40 inches long of any size and done up each piece simply in paraffine paper, and sealed in an envelope, then subjected to a dry heat of 284° F. A sample of each lot prepared is tested by culture for germs before being put on the market. Each package remains sealed until opened for use.

The envelopes can be put in a little case and carried in the vest pocket without fear of their becoming infected or soiling anything.

W. E. GREEN, M.D., Little Rock, Ark.: I very much dislike to follow Dr. Wood in the discussion of a paper, for the reason that he has the faculty of saying all there is to be said upon the subject, and saying it so well that there is nothing left to be said. The methods which he describes in his paper, with few exceptions, I carry out in detail. He is right up to date. What I especially desire to state is this: Judging from the remarks of one or two of the speakers, one would be led to think that the Homœopathic School was opposed to antiseptic methods. I admit that this is correct in individual cases, but as a school it is no more true of Homœopathy than it is of the Old School. So far as I know we, as surgeons, practice antisepsis as much as the Old School, and we believe in it as thoroughly as they. You will find men in the Old School rusty and behind the times the same as you will in our own. I think it an injustice to our men to cast such insinuations.

M. H. PARMELEE, M.D., Toledo, O.: In considering the paper of Dr. Wood I will say that he is absolutely correct in his idea of the value of antisepsis. But let me say to you that Tait's idea of cleanliness strikes at the very root of the whole matter. There is an idea prevalent that if you operate under antiseptic conditions you are bound to use some irritating agent. That is not true. What is antisepsis if it is not cleanliness? In my estimation cleanliness is the greatest thing to be observed in the operating room, and soap is the greatest of antiseptics in the world. After the method of Fibron the true mechanical removal of the germs is better than any chemical application. Now as to catgut. This is a subject always present in the mind of the surgeon. Dr. Edibold uses what he calls forty-day catgut. He puts catgut in a locker, adds Bichromate of potash, and presses it down into a screw-cap receptacle, and sterilizes it at a temperature of 265° F. for four or five days under this pressure, and then puts the catgut in a receptacle and never opens it until ready to use. In that way catgut will last for forty days in the abdominal wall.

L. K. MAXWELL, M.D., Toledo, O.: I believe that every progressive

physician present here to-day should believe in antisepsis. I, myself, am a firm believer in it, and I can most heartily endorse the paper with only one exception. He stated that you should apply a compress of Bichloride of mercury, strength one to one thousand, the night previous to the operation. I believe that some patients are too susceptible to this drug to have it applied in that strength. If we apply a compress of this strength twelve hours previous to the operation we are liable at times to be very much chagrined to find a very extensive dermatitis, and be compelled to wait for a week to ten days before we can do our operation. Last fall I sent a patient to the Toledo Hospital to operate for cancer of the breast. The patient was prepared about 9 P.M. in the above manner, and I went to operate at 10 A.M. the next morning. When we removed the compress I found such an extensive dermatitis, extending over the breast and one-third of the arm, that I was required to wait ten days before I could get her in shape to operate. I consider that to use this drug the strength of one to five thousand is much safer in patients with a very delicate skin.

C. B. KINYON, M.D., Rock Island, Ill.: The fact is we make a mistake if we say that surgeons of our school almost universally favor antisepsis, as some of you seem to think. It is unnecessary to go very far to find men in our school who do not believe in it. There is a man in one of our colleges who is not only a disbeliever, but strongly argues and teaches against antisepsis. I have seen him operate frequently, and he practices what he preaches. His results are such as we might expect. I feel sure that the paper of Prof. Wood is not only admirable but very timely.

A. E. NEUMEISTER, M.D., Kansas City, Mo.: I must congratulate Dr. Wood upon his paper. We have one or two Homœopaths in our city who do not practice antisepsis, and they call themselves more advanced than other surgeons. I do not believe that any physician can wash his hands clean with plain soap and water. He should always use some germicide strong enough to destroy the germs. It is certainly true that midwives never knew anything about antisepsis, and this may explain why they so often have cases of puerperal fever.

G. W. ROBERTS, M.D., New York, N. Y.: It is certainly a pleasure to hear Dr. Wood's paper. I am sorry to learn that it is still necessary to discuss with some of our physicians the subject of cleanliness in surgery. Many men do not understand the *philosophy* of antisepsis. The terms antisepsis and asepsis are very frequently misunderstood. Asepsis is the result obtained by antisepsis. Soap is all right as a mechanical cleaner, but it does not go far enough. If the germ exists in the skin, it is liable to be loosened while operating, and if so will infect the wound. By the use of a strong solution of Permanganate of potash you can kill these deep germs. It depends largely under what circumstances a surgeon is operating, whether he can

best use mechanical or chemical antisepsis. If a man is operating, as many do, in a room which is under his absolute control and is assisted by physicians, nurses and helpers who are under his absolute control, then I believe it is possible to carry out mechanical antisepsis or the aseptic method, but where a man is practicing in the country or small city, where he has imperfect control over hospital assistants and nurses, it is then necessary to resort to chemical antisepsis.

J. S. BARNARD, M.D., Baltimore, Md.: I come from a town where Dr. Howard Kelley flourishes, and I know something of his methods. I don't wish to criticize, but I don't believe the world gets the truth of his results, first in regard to mortality, and second as regards results gained from methods used. I don't believe it does any good to go through all these methods and then do things which will undo all you have done. Little things as well as great things you must watch. Have one or two nurses or assistants and make them sterilize themselves and remain in the room, and you will get better results than if you deputize them all, and allow them to go here and there. It does not lie only in the preparation of the patient to attain perfect antisepsis, but you must pay close attention to every detail.

J. M. LEE, M.D., Rochester, N. Y.: I want to speak on a subject which has been overlooked. It seems to me that every surgeon who operates constantly should have two corps of assistants, one for aseptic and one for septic cases. Every general surgeon has a large number of pus cases to operate on, and the germs will find their way under the epidermis, and by scrubbing ever so thoroughly you may not remove them.

I have followed the above method at Rochester, and have had much better results since it was adopted.

DR. GREEN: I wish to state that before I do an operation of importance, I am very careful to prepare my person. I take a bath, remove all apparel which I have worn and put on clothes from the skin out, which have been sterilized, then I bandage my head so that no hair is exposed. No man can operate aseptically who leaves on the clothes which he has worn visiting other cases. One cannot ride for miles in his buggy in the dust and visit all kinds of cases without having his clothes and person contaminated. I will not allow any person to come into my operating room who has not been thoroughly prepared. I am sure these principles are endorsed by almost every surgeon of experience.

DR. WOOD: I do not wish to take up much time. My critics have been so well answered by the friends of antisepsis that I shall only touch upon a few points. There are still men in the Homœopathic School who are opposed to antisepsis, and we might as well confess it. I know, as consulting surgeon, a great many

physicians who don't believe in it, and we have three or four well-known journals which are constantly harping against it. Bœckmann's method for preparing catgut I have never used. I have no doubt at all that the technique of antisepsis will be greatly improved in the future, but at the present time we must do the best we can with the methods we have. I can hardly see how water can be consistently classed as a germicide unless it is boiled. In reference to Mercury causing an irritation of the skin, I have had one or two cases where slight irritation resulted, but I mistrust that in those instances where the dermatitis has been marked the strength has been greater than 1–1000. By observing the rules I have laid down I can go month in and month out, operating almost daily, without pus. If I relax my vigilance in the least I meet with pus. I would like to see some man who could prove this can be done without availing himself of antisepsis. At least nine-tenths of the opposition to antisepsis met with comes from men who are not surgeons but theorists.

Some Observations on Acute Pelvic Suppuration.

By Sheldon Leavitt, M.D., Chicago, Ill.

Until recently, the treatment of acute pelvic suppuration has been (1) by the expectant plan, (2) by use of the aspirator, (3) by abdominal section, and (4) by vaginal hysterectomy. There is no doubt that many lives have been saved by each of these methods; but then, many lives have undoubtedly been sacrificed through the adoption of too severe treatment; while, on the other hand, many more have been lost through inaction.

Our chance of success with a major operation is greatly reduced by the existence of acute inflammatory and suppurative action. This is what has driven many operators to give the expectant plan undue prominence in the treatment of acute suppurative inflammation in the pelvis, they preferring to procrastinate, in hope that the pent-up pus will itself find an avenue of escape.

There are others who advocate the advisability of "going for" pus whenever and wherever found; and I am glad to be enrolled among such. But we should choose, with much care, the best means and the safest route. The older surgery suggested the aspirator; but the results of probing with a steel needle for occult pus-pockets proved to be dangerous and unsatisfactory. Modern surgery at first said, "Open up the abdomen, break up adhesions, remove the appendages, clean up well, and drain, if necessary." This works to our liking in women who have retained sufficient vitality to withstand the shock; but among our patients there are many who are unable to bear the strain. Subsequently it was learned that vagino-salpingo hysterectomy for such cases resulted in reduced mortality; and accordingly this has been a favorite operation with many wide-awake surgeons, sufficient justification for removal of the uterus being found in its usual involvement in the pathological process, and its uselessness after removal of the appendages. But vaginal hysterectomy is often attended by symptoms of profound shock, which certain debilitated patients cannot withstand.

I want it distinctly understood that I am not about to urge a sub-

stitute for either cœliotomy or vaginal hysterectomy, save in those cases where the patient is really unable to bear surgical intervention of the more radical kind with good hope of a favorable issue. On the other hand I do not hesitate to commend it as a substitute for aspiration, and for expectant treatment, inasmuch as I have lost what little faith I ever had in both these methods.

What is claimed for the vaginal incision in these cases is, (1) its simplicity, (2) its freedom from shock, and (3) its prompt efficiency. It can be undertaken with good prospect of immediate, even if temporary, relief. To be sure it will not always rescue the patient from either impending or remote peril, as the life forces may already be in decay; but it certainly brightens the prospect in many otherwise hopeless cases.

Without further comment I take pleasure in submitting reports of the following four desperate cases:

Mrs. B., 26 years of age, short, thin and rather anæmic, the mother of one child, three years of age, came to Hahnemann Hospital for the relief of pelvic pain, weight, and pressure, considerably increased at the menstrual period. She was unable to do much work, and, withal, reckoned herself as quite an invalid. She gave a history of puerperal inflammation and suppuration which confined her to the bed for a number of weeks, the details of which could not be learned. Physical exploration revealed slight thickening behind and to the side of the uterus, which modified free uterine mobility. The uterus itself was slightly enlarged, and the cervical canal was in a catarrhal state. The rectum was also sensitive to vaginal touch, and showed considerable irritation of its mucous membrane. In the presence of a sub-class the patient was anæsthetized, the uterus dilated and curetted and the sphincter ani well stretched. For six days the pulse and temperature remained normal, and the case showed every sign of favorable progress, when suddenly the patient experienced a chill, followed by a rise of temperature and severe pain in the lower part of the abdomen, with some tympanites. During the succeeding ten days the temperature remained abnormally high, reaching, on one or two occasions, 104° F., and the pulse range was from 100 to 120. At the end of that period the uterus was entirely encased and immobilized as the result of the pelvic exudation. The general appearance of the woman was unfavorable, and the mental faculties were considerably dulled. In short the case became exceedingly threatening. In view of the former suppurative history, as well as the present posture of the

case, I decided to practice surgical intervention with a view to evacuation of the pus which was presumed to exist in the pelvic cavity. It was evident that the woman was in no condition to bear the shock of either a cœliotomy or a vaginal hysterectomy, and therefore a conservative plan of operation was decided upon. After due preparation, the woman was removed to the operating room and anæsthetized. In the presence of a sub-class the cervix was seized with bullet forceps and light traction made upon it in an anterior direction. The perinæum was retracted, and then, with scissors, an incision was made behind the cervix, similar to that which is made in vaginal hysterectomy, and the tissues were pushed up, and separated by the finger, until the latter was enabled to enter the broad ligament on either side. With the opposite hand on the abdomen, the exploring finger separated the tissues, and was urged in the direction of the probable pus-pockets until they were found and punctured by it. Three separate pus cavities were thus opened and subsequently washed out. This having been done, a gauze drain of some size was carried into each of the empty cavities by means of dressing forceps, and the vagina lightly packed with the same material. The woman was returned to her bed in good condition. The temperature at once fell to 99° F., and the pulse was soon correspondingly low. Canvalescence was slow, and attended by two or three short periods af temperature elevation and slight pain; but the woman finally left the hospital in a comfortable condition. It is quite probable that hystero-salpingo-oöphorectomy will ultimately be required to make a cure, but it is evident that the conservative operation just described rescued the woman from almost certain death.

Mrs. X.; 25 years of age; a nullipara, strong, and well nourished. I was called to see this woman at the Garfield Park Sanitarium, by Dr. E. L. Smith. I found that some two weeks previously the doctor had carefully dilated the sphincter ani and removed some pockets and papillæ, after which the patient had done well for a number of days, when she was suddenly seized with a chill, followed by a rapid rise of temperature, severe pelvic pain and other indications of pelvic peritonitis. These symptoms continued, and the local changes accompanying such an attack became fully developed. My visit was made some four or five days after the trouble began. I found the patient in an extremely critical state. The countenance betokened her desperate condition. The pulse was rapid and feeble, the temperature 101° F., the abdomen tympanitic and the respira-

tion hurried. The temperature had been much higher. Physical exploration disclosed an immobilized uterus due to an extensive and seemingly firm exudate. It was evident that her only possible chance lay in the direction of conservative surgery, having in view evacuation of the pus which was undoubtedly confined in the pelvis. Accordingly the patient was hurriedly prepared and removed to the operating-room, where I made an incision behind the cervix, and then opened into the pus cavities by means of finger dissection as in the preceding case. Three separate pus sacs were entered, from which was discharged pus so fetid that one of the nurses in attendance was overcome and obliged to leave the room. These cavities were then washed out and drained, as in the preceding case. But in this instance the relief thus afforded came too late, the woman dying a few hours subsequently.

Miss O.; 19 years of age; was brought to Hahnemann Hospital about 10.30 P.M. by Dr. E. H. Hayes, suffering from septicæmia following an abortion induced by her own hand. Just before starting for the hospital, the patient's temperature had reached 107° F. I found her talkative, flushed and excited, and in a condition close to delirium. So far as could be learned, the abortion was incomplete, and I accordingly hastily prepared her for curettage. The os was remarkably small and undilatable, so that with some difficulty the graduated sounds made it yield sufficiently at last to receive No. 23. Beyond this I could not go without seriously endangering cervical integrity. The girl was said to be not over three months advanced in pregnancy, and my surprise can be imagined upon finding that the sound, when turned toward the right uterine horn, penetrated to a depth of nearly six inches, and could easily be felt through the abdominal parietes. The curette was carefully but persistently used, and a large handful of detritus removed. The uterus was washed out with a carbolic solution, the vagina was thoroughly cleaned and a pad of iodoform gauze was applied to the vulva.

The temperature at once dropped to about 100° F., but did not long remain so low. During the succeeding two or three weeks it was up and down, sometimes attaining a height of 104° F., and often falling to normal. During this time there was some evidence of involvement of the appendages, especially of the left side, and at times the pain and sensitiveness were severe. The patient herself was clamorous for operative interference, but this was deferred in hope that marked convalescence would set in, or that the local symp-

toms would become more pronounced. At last, in the fifth week, there being no continued improvement, and the presence of pus being suspected, the patient was prepared for operation. The uterus was again dilated and curetted, though nothing in particular was brought away by the instrument Again, however, the dilator easily penetrated to a depth of more than five inches at the right horn of the uterus, and its point could easily be felt through the abdominal wall. An incision was made behind the cervix, as in the preceding cases, and the broad ligaments were explored by the finger, but no pus was found. The patient felt better than usual on the succeeding day, improved rapidly and left the hospital at the end of a week. It will be observed that though no pus was found, the operation proved highly beneficial.

On June 4th, I was summoned by Drs. M. Houston and O. C. Davis, of Joliet, to see Mrs. S., of that city, aged 23 years, who had been delivered some three weeks previously of her first child. I found the patient thin and pale, the abdomen somewhat tympanitic, the uterus encased by a firm exudate and absolutely immobile. She had been ailing with these acute symptoms for five or six days, the earlier part of the puerperium having been characterized by the usual phenomena. There had been considerable vomiting, and for a day or two, there had also been involuntary diarrhœic stools; but the patient had suffered very little pain. The temperature at noon of the day on which I saw her had attained the height of $106\frac{4}{10}°$. By 5 o'clock it had descended to $99\frac{1}{5}°$ F., but when I saw her at 6.30 o'clock, it had again ascended to 103. The temperature tracings had presented these sharp angles for two or three days. Auscultation disclosed a marked systolic murmur, most distinctly heard at the apex of the heart, and the pulsations varied from 80 to 120 per minute. The mind of the patient was apparently clear, though in the morning she had shown confusion with regard to the time of day, and was evidently in a condition bordering on delirium.

Believing that there was pus in the pelvis, an immediate operation was recommended and agreed to by all the interested parties, including the patient. The preparation suited to such a case was at once made, and the patient placed upon the table, in the lithotomy position, at about 8.15 P. M. The uterus was curetted and washed out, and then a post-cervical incision was made, as in the preceding cases. The exploring finger found no pus on the right side, but it soon entered the peritoneal cavity through the posterior sur-

face of the left broad ligament, and there found what was sought. Half a pint of foul-smelling pus was discharged, and the cavity was thoroughly washed out. On re-introduction of the finger this part of the peritoneal cavity was found walled in by adhesions, and appeared to measure about three inches in diameter. Fragments of broken down tissue were rubbed loose by the finger, but they were all removed by a second washing. The vagina itself was thoroughly cleansed, after which several inches of a strip of iodoform gauze, four or five inches wide, were pushed into the pus cavity, and the end of the strip was left protruding from the vulva. A similar drain was put into the opening made by the finger in the right broad ligament. Boracic acid was freely dusted upon and just within the vulva, and an antiseptic pad applied. The patient awakened promptly from the chloroform sleep without vomiting. At 10.30 P.M. the temperature had fallen to 100° F., and the patient expressed herself as feeling comparatively comfortable. When I saw her at 6.45 on the following morning, I learned that she had slept a little, had vomited slightly once, but on the whole had continued in a comparatively comfortable state. The pulse was 88, and the temperature 99° F. The subsequent history of this case was uneventful. All the unfavorable symptoms gradually subsided, and the patient is now convalescent.

DISCUSSION.

J. C. DAILY, M.D., Fort Smith, Ark.: In arising to speak on the subject in discussion, I will say that I am very glad that it has been presented at this special time. Cleanliness on the one side and drainage on the other are saving many lives.

T. G. COMSTOCK, M.D., St. Louis, Mo.: In the case which the doctor mentioned, I understood him to say that the uterine cavity measured seven inches. I would like to know how he explains that depth.

WM. C. RICHARDSON, M.D., St. Louis, Mo.: I look upon this paper as being along the line of conservative surgery. I saw a case not long ago in consultation. A married woman, without apparent cause, suddenly developed a severe pelvic inflammation. An examination revealed a large tumor that proved to be a pelvic hæmatocele. The tumor was opened, and we removed more than a quart of clotted blood, after which she made a rapid recovery. The paper calls attention to conservation and successful methods, which should be imitated.

J. C. WOOD, M.D., Cleveland, O.: I simply want to say that I commend what the last speaker has said, and I also commend the paper

in the highest terms. During the past year I have been able to save three lives by simply opening the abscess and applying drainage; the fourth case I was so unfortunate as to lose. The temperature in this case was 105, and the pulse almost imperceptible, when the patient was placed on the operating table.

DR. LEAVITT: In answer to Dr. Comstock's question I will say that I did not mean to convey the idea that the uterus throughout was of that depth, but when I turned the sound towards the right horn it was of that depth. Whether she had used instruments, and thus had punctured the uterine wall, or not, I do not know; however, it is to my mind hardly probable that she had. It is not impossible that the sound passed into the Fallopian tube. That has occurred in more than one instance. I could not pass the sound to any such depth anywhere else in the cavity of the uterus.

Advantages of Ventral Fixation of the Uterus.

By J. S. Barnard, M.D., Baltimore, Md.

It permits thorough examination of the abdominal contents.

It permits thorough repair of the uterus and adnexia, while all other organs continue their functions.

It permits a more thorough technique than can otherwise be secured, and besides leaving the uterus in an acceptable position, saves the patient in many instances from a more serious operation.

We do not succeed by the usual methods in curing more cases of displacement because we are not able to remove the cause or reach the seat of inflammation without an abdominal incision. This incision made, the mysteries of the abdominal cavity are mysteries no more, for now we have complete knowledge of the contents from actual inspection. Only under such conditions are we capable of determining the right procedure in many of these cases. With a map of our own experiences and the experience of others before us, we are then prepared to do what is best for the patient.

Until recently we have continued medical and local treatment for displacements in some instances without any great degree of success. Since the bearing down and the pains continued, as also did the malposition of the uterus, until the patient became exhausted physically and depleted financially, and gave up the struggle for health, finding that she could live about as comfortably without the treatment as with it, yet going hither and thither occasionally to try some new Æsculapius whose star made its appearance on the horizon, but only to return once more to the old life of suffering and pain. It is this class of cases that has touched the hearts of the surgeons and prompted them to fly to the rescue and, if possible, to save such sufferers from a life which is worse than death. This is done in many instances at the risk of reputation and nervous wear, but for the sake of humanity they have been found willing to make the sacrifice. It could scarcely be expected that such a change of methods should suddenly be brought about, for such is not a normal progress of events. Some one must take the first steps and watch results. This was the case. In some instances the advance was too radical, in others not radical enough. To sacrifice

a uterus and adnexia unless marked pathological changes have taken place in both ovaries or both tubes, or to remove them for extensive adhesions, or for a large subinvoluted uterus when perhaps a lacerated cervix was the primary cause, would be to make the advance too radical even if the patient were cured. On the other hand, to do curetting, trachelorrhaphy or dilatation for an old, aggravated salpingitis, with partial or complete prolapsus, would be a mistake in the opposite direction.

After years of experience, we have come now to a comparatively new operation for a displacement which cannot be cured by medical or local treatment—an operation which stands between the extremes—ventral fixation or gastro-hysterotomy.

In many cases the use of this method is justifiable; for instance, in complete prolapsus, when the tubes and ovaries are not both cystic, or when only one side of the broad ligament is involved.

It is one of the marked advantages of fixation over other methods of operating that one ovary and tube, and as much of the ligament as necessary, may be removed and the uterus still kept in position, while the functions still continue even to the point of child-bearing without any additional trouble. A victory was won when it was ascertained that the adnexia of one side might be removed and the organs yet left in a condition to reproduce; for I have observed in my practice that women do not care to undergo hysterectomy or any other operation that will destroy their maternity. Whether this is because they desire children, or simply because they fear that masculinity will ensue, as apprehended by the superstitious and ignorant, I do not know. Let that be as it may, the fact that we do not destroy the function of the organ has great weight in reconciling women to an operation.

Another advantage of this operation is, that by it, adhesions may be broken up and the uterus placed in a position where it cannot attach itself again to the rectal walls. Opportunity is also afforded to break up the adhesions which grasp the ovaries and bind them down. It also permits the replacing of a displaced ovary and the fixing of it in its normal position. Fine catgut should be used.

In my practice, one of the chief advantages of this operation has been the ability to cure anteflexions or anteversions, for this variety of displacements causes more local pains about the bladder, uterus and ovaries, with rectal aggravations if the uterus has settled down into the rectum, and systemic disturbances of every kind, than all other varieties of uterine deviations taken together. What other

methods can be used to cure this line of displacements? Pessaries only aggravate; tampons will not hold the organ in place; dilatation, rapid or otherwise, leaves the position unchanged; sponge tents irritate every set of sphincter muscles within a radius of six inches of the cervix; the rest-cure only gives beautiful results as long as the patient remains flat on her back. At least this is my experience. Hence, when I find a case of ante-displacement, accompanied by vesicle irritation and systemic commotion which the foregoing methods have failed to relieve, I at once advise an operation for fixation. So far the results have been satisfactory. In thirty-six cases there has not been a single failure. Although this is a very small number to quote definite results from, yet it has included all varieties of displacement with the removal of sessile and pedunculated fibromata of the uterus, hæmatomata of the ovaries, pyo- or hydro-salpinx, and the breaking up of extensive adhesions around both uterus and ovaries, in several instances accompanied by the removal of the appendix.

The technique is as follows:

1st. Repair the cervix, perinæum and rectum, provided there is need of the same. Next prepare the abdomen for cœliotomy in the following manner:

Using a brush with soap and water, give it a thorough scrubbing; rinse first with sterilized water, next with Bichloride, 1 to 200, following this with a thorough application of Ether, and, lastly, with a bath of alcohol. All instruments are sterilized for each patient at the time of operation; the lances and other sharp instruments are washed in a solution of Bicarbonate of soda, 1 to 10, and rinsed in alcohol. Every assistant wears a suit, and washes his hands and arms first with soap and water, scrubbing them thoroughly, especially around the nails; afterwards in Bichloride, 1 to 200, and, finally, in a salt solution, 1 to 10. He is now ready for the operation, and is not allowed to touch anything about the room, or even his own body, until the work is finished. The incision is about two and one-half inches long, made in the median line, extending down to the peritonæum, beginning one and one-half to two inches above the pubic arch. At the middle of the incision an opening is then made into the peritonæum large enough to admit the index finger, but this opening into the peritonæum is not enlarged until a thorough examination of the contents of the abdomen is made. A long-handled, sharp tenaculum is used in bringing the organs into view. If an ovary should be enlarged and adherent, the hook is

attached to the ovarian ligament anteriorly, the adhesions broken up with the finger, the diseased organs brought into view and, if necessary, removed. This is done by grasping the uterine ligament near the margin of the ovary with a pair of artery forceps, after which a No. 2 catgut suture is threaded in a needle, and the first stitch is taken just below the forceps and tied. This serves to fix the tissues, so as to have them always in view and under control. The ovary is then removed, keeping as close to it as possible without cutting into the stroma. The line of suture is continued, uniting the margins of the severed peritonæum with an uninterrupted suture. Whenever a bleeding point is reached, a deep stitch is taken and locked. The suture is then carried back to the point of beginning by three or four long stitches, the ends are tied and the stump is dropped. If the operation has now included all the diseased tissues, the uterus is caught by the hook in its posterior surface and brought up to the opening. There a second hook is caught into its anterior surface, and both are held firm by an assistant.

The next step is to place the silver wire sutures. This is done by using a long, curved needle, introducing the stitch on the left side about one and one-half inches from the line of incision, passing through all the tissues down to the fundus of the uterus, entering it on the left side one-quarter of an inch posterior to the Fallopian tube, passing across it and out upon the opposite side in a manner corresponding to its introduction. The second stitch is made an inch below the first and in the same way, except that it passes through the fundus *anterior* to the Fallopian tubes. Care is taken to draw the peritonæum well up into the incision before these stitches are applied.

We next close our peritonæum, using No. 2 catgut ligature in a short, full-curved needle. In doing this we sew through the peritonæum into the fundus of the uterus, beginning in the median line of the fundus, slightly anterior to the anterior wire suture already described and passing over the fundus to a point a little beyond the posterior wire suture first mentioned.

We now close our superficial fascia and remove the hooks. The wire sutures are then brought together and twisted, care being taken not to make them too tight, since that produces sloughing. The integument is next closed with the suture just used to close the peritonæum and the superficial fascia. This is done for the purpose of avoiding a multiplication of knots in the line of incision, since suppuration usually begins at points where they exist and is

occasioned by them. The abdomen is now cleansed with sterilized water, care being taken not to allow a drop to come in contact with the wound. The wound is covered with a powder of Iodoform and Boracic acid, 1 to 6, over which are successively placed several layers of iodoform gauze, a layer of plain sterilized gauze, a heavy layer of sterilized absorbent cotton and the Scultetis bandage. The patient is now ready for bed. We do not pack the vagina or use any means to support the uterus. The patient is allowed to rest upon either side or upon her back, as she may desire. The bandages are not disturbed until the twelfth or fourteenth day, when they are opened and the wire stitches removed. The wound is re-dressed with a fresh piece of gauze held in place by the Scultetis. The patient is then allowed to sit up, and in two or three days to walk about the room.

There are a few points which deserve special mention:

1. The size of the opening into the peritonæum, which is believed to have much to do with ventral hernia.

2. The point of attachment of the uterus to the abdominal wall. This should be at a point where the peritonæum leaves the abdominal walls to form the vesicle space, which is from two and a half to three inches above the arch of the pubes.

3. By placing the sutures as we do, anterior and posterior to the Fallopian tubes, the uterus hangs pendant in the pelvic cavity. This allows freedom of movement and pregnancy without any disturbance of its attachments or of the abdominal contents, which is not the case when the sutures are placed wholly upon either the anterior or the posterior surface.

4. Since we do not use a solution of any kind or description in the abdominal cavity there is no drainage.

5. Out of the thirty-six cases above referred to we have removed the appendix vermiformis in five and the adnexia of one side in twenty; complete prolapsus has been corrected in six, three of which included the removal of one ovary and its tube; firm adhesions were broken up in all cases except nine. In two cases there have been conception and birth of good healthy babies at term. Separation has taken place in only two instances, and could readily be traced to the wire sutures being twisted too tightly, causing some sloughing, but the deeper structures were not affected. We are not aware of a single failure in attachment, although some of the cases have been of two years' standing, and, best of all, not a single death has occurred.

Discussion.

J. C. Wood, M.D., Cleveland, O.: I want to report a failure which I had in one case of hysterorrhaphy. I used a sharp needle to penetrate the uterus, and the needle wound caused a fatal hæmorrhage. Dr. Lee told me he had a death from the same cause. Since that, when I have had occasion to fix the uterus, I use a round needle; I never used the Hagedorn needle, because I don't like it. I get ordinary round darning-needles at the dry-goods store, and I like them better for this purpose and for perineal work than any other kind.

M. H. Parmelee, M.D., Toledo, O.: I hear no mention made of scarification of the uterus. I have always been in the habit of scarifying, and have never had a failure. There are different methods, but if you are to secure firm adhesions, you had better scarify. The doctor claims that in anteflexions, fixation should be performed. I think most surgeons would take exceptions to that. There are two forms of cervical amputation which get rid of antiflexion.

J. C. Daily, M.D., Fort Smith, Ark.: I would like to ask if you depend on silver wire instead of silk?

Dr. Barnard: Yes, I use large wire.

Dr. Mitchell: In cases where it is necessary to take out both ovaries would you leave the uterus?

Dr. Barnard: No, I should take the uterus with them. Now in closing, I wish to say only a few words. Nothing gives me so much trouble as anteflexion of the uterus, especially if you have prolapsus with it. I have never been able to cure this condition without an operation. It will many times produce vesical irritation to any and every degree. Fixing the uterus relieves this condition, so I believe it should be performed. So far as scarification is concerned, I don't think it is necessary, because as you know one prick of the needle in your finger will produce all the scarification that you need for adhesions. You have your stitches and you have plenty to hold your uterus there. The men who use scarification are the men who fail, and not the ones who do not.

Uterine Symptoms Resulting From Movable Kidney, With a Description of an Improved Operation.

By Sidney F. Wilcox, M.D., New York City, N. Y.

It is a well-known fact that movable kidney gives rise to many symptoms which are likely to be attributed to other causes. Patients are treated for many other diseases, as indigestion, liver trouble, weak heart, cystitis and uterine diseases.

In fact, the patient is treated for many or most of these troubles before the real cause is discovered and I confess that in a number of cases I have not suspected the existence of a movable kidney until I discovered it incidentally while examining the abdomen for something else.

Uterine diseases are most frequently simulated and most patients are treated for the symptoms which are supposed to arise from disorders of the uterus, and most of the cases which have come under my observation have undergone such treatment, and some of them for prolonged periods of time. Frequently associated with the supposed uterine symptoms, there are many hysterical manifestations which of course are naturally attributed to the disturbed uterine functions.

It would not be of much use to detail special "uterine" symptoms as those arising from movable kidney, because this would involve bringing in every symptom that could by any possibility be ascribed to uterine derangement. But as a rule all symptoms are especially aggravated during the menstrual period, and this is one reason for attributing the uterus as the cause. This is not always the case, however. I have one patient with movable kidney who experiences great relief during the menstrual period, but this is a very exceptional case and one which I am unable to explain.

I believe sterility may occasionally be traceable to movable kidney. I have two ladies among my patients who have this trouble, and neither of them conceived until after the discovery of the loose kidney, and its confinement by means of a well-fitting bandage and pad. Both had desired to have children, and in one of the cases the patient had been married for a number of years. Both had pecu-

liar symptoms whose origin it was difficult to trace. In one of them, although there was no objective signs of uterine trouble—the uterus being perfectly healthy and the cervix easily permitting the passage of the probe—still she suffered greatly at each period, and was always several days late in "coming round."

After discovery of the true cause of the trouble and the application of the belt the period came on time, and for the first time that she could remember she had no pain, although previously she had been obliged to remain quiet for the first day.

Both of the above-mentioned cases conceived within a short time after the support of the kidney was begun with bandage and pad. Of course, one cannot reasonably argue from only two cases that movable kidney is a frequent cause of barrenness, but it would seem from the coincidence in the cases cited that when movable kidney and barrenness exist in the same case the latter condition might be the result of the former.

I have observed also another important fact, and that is that when pregnancy is well advanced the symptoms referable to the kidney are likely to disappear and the patient enjoy good health. This is due to the enlarged uterus pressing upward and thus pushing the kidney back into its place. After delivery, of course, the former symptoms may return and even be aggravated by the greater laxity of the abdominal walls.

As to the treatment of this condition the only methods which offer any chance of relief are such as involve mechanical means. The palliative measure, by use of the bandage and pad, gives relief to many cases. In some of them the relief is complete, in others it is partial, but so marked that they prefer to suffer a little to undergoing an operation. In others the bandage and pad are of no use whatever, and these are the ones who require an operation.

In Germany some physicians have advised the patient to lie flat on the back for several months until the kidney grows fast in its place. To the writer such expectation appears absurd.

The bandage requires great care in fitting and adjustment, and the most careful measurements should be taken, and then the bandage should be tried on before finishing. The pad should be slightly wedge-shaped, with the base downward. The patient should *always* apply the bandage while lying down on her back, after pushing the kidney back into place.

It is my custom to advise the operation of nephrorrhaphy *only* after a trial of the bandage and when it is found to be unsatisfac-

tory. I have a number of cases who are satisfied with the result of the palliative treatment.

Regarding the risk of the operation I think it is small. If the peritonæum is not wounded there is little danger, and thus far I have had no bad results.

In the last case, when I operated on both kidneys at the same time, I modified and, I think, materially improved the technique of the operation.

The external incision is made, as usual, parallel with the twelfth rib and a little below it, and all the tissues divided until the muscles are reached. Then, instead of cutting through the muscles (the obliques and transversalis), their fibes are *separated* and drawn aside with strong retractors. This gives access to the kidney without injuring the integrity of the muscles, and the operation is less likely to be followed by hernia. Another improvement consists in stitching the everted fibrous capsule of the kidney to the inner surface of the abdominal muscles by means of kangaroo-tendon sutures. This remains undissolved longer in the tissues than catgut and is for this reason preferable.

I do not think it is absolutely necessary to pass any of the suture through the kidney itself, although I have done so in a number of cases. While the kidney is very tolerant of surgical interference, I do not think the amount of extra adhesion gained compensates for wounding the organ.

McBurney packs the wound with iodoform gauze so that it will heal by granulation and the kidney be held in place by a strong cicatrix. I have tried this, but have not been able to see that the resulting cure was any better.

I offer this short and incomplete article with the hope that it may draw attention to the possibility of movable kidney being the real cause of symptoms which may apparently arise from disturbed uterine functions or uterine disease, but which do not yield to treatment.

The Present Status of Ovarian Surgery.

By J. W. Ward, M.D., San Francisco, Cal.

In pursuing a searching inquiry along any line of scientific work, there develops an increasing interest and value in accordance with the ability to draw conclusions from compilations or original investigations.

There is no subject throughout surgical science that has received more original investigation or possesses a richer literature than that of the surgery of the ovaries.

It is one of the few departments of surgery that essentially belongs to the nineteenth century. Within the century in which we live, the first ovariotomy of the world has been performed, and that in our own land.

"By far the most important and extensive part of abdominal surgery is concerned with tumors of the ovary. It was here that the surgery of the abdomen signalized its first triumph, and it has been chiefly through the practical experience gained in this field, that the present proud position of peritoneal surgery has been established." (J. Greig Smith.)

Our century has witnessed the development in method, which has through its results awakened a new pathology in disease of the annexæ. Its closing years show the perfection of technique so complete that ovariotomy possesses a mortality almost *nil*.

It will be the aim of this paper to present in review those facts upon which many have written, and which recent travel abroad, together with personal experience, has led me to believe is the present status of ovarian surgery.

I shall consider:

I.—The evolution of technique.

II.—Operations and their limitations.

III.—Closure of the parietal incision and a tabulated list of methods by various operators at home and on the continent.

I.—The Evolution of Technique.

No better illustration of human endeavor has ever existed than that making the history of ovariotomy.

Since the time when Ephraim McDowell lighted the torch of ab-

dominal surgery, there has existed a flame whose light has made clear the inestimable value to be derived from ovariotomy and which has permitted the development of precise methods. It has been the advance guard to a vast field of surgical possibilities, so that now not an organ of the abdomen has escaped operative work, thereby a wise movement has been inaugurated in the creation of abdominal surgery as a special branch of the surgical art.

Ovariotomy has proved an index to the safety of peritoneal manipulations. Through the evolution of its surgical technique, the precise methods of aseptic surgery have well-nigh reached perfection. The correct idea of periuterine pathology has been brought forward, and demonstrated beyond cavil through the light gained by this operation, which has made differentiation possible between tubal, ovarian, and uterine disease.

The whole history of ovarian surgery in the slow and tardy evolution of its first stages, has turned on the treatment of the broad ligament pedicle. This holds true whether it be the treatment by the long ligatures of Ephraim McDowell in 1809; the short ligatures, with dropping of the pedicle, of Nathan Smith in 1822; the cooking dry of the clamped pedicle by the cautery in the hands of Baker Brown in 1851, in all the results were the same and the purposes one.

Looking backward upon the work of a generation now passed, from a standpoint altogether free from bias, we acknowledge these methods imperfect, as are the methods of all pioneers, but it was upon their work that the foundation was laid for all those brilliant results we now attain.

I have no hesitation in saying that careful perusal of the subject will show that since the introduction of the short ligature with the dropped pedicle of Nathan Smith, the record of progress was from Clay and Baker Brown to Keith, passing over altogether the advent of the clamp as something deeply to be regretted.

Since the re-introduction of the intra-peritoneal method by Keith, who by so doing has earned the lasting gratitude of humanity, the treatment of the ovarian pedicle has been simplified, being rendered safe by aseptic suture material.

It would be an error of omission not to emphasize the incalculable import of the introduction of antiseptics into surgical work. It must be regarded in the light of advance over the varied, uncertain surgical work of a former period. The whole surgical world is indebted to Mr. Lister for the antiseptic method of treating

wounds; of this there can be no question. That over this as a stepping-stone, and following his precise methods, most minute care and absolute cleanliness have been substituted for carelessness and filth, is plainly allowed by all. It is also true that, as we compare the older records with those results he obtained in the treatment of wounds, the contrast is very astonishing.

"The practical value of his teaching in saving human life and preventing an immense amount of human suffering is a fact which cannot be gainsaid." (Helmuth.)

While, therefore, I am confident that all will accord to Listerism a vast practical improvement, still there is a wide difference of opinion even to-day regarding the place of antiseptics in abdominal and general surgery. Mr. Lister aroused the surgical world to a more adequate estimation and proper application of thorough disinfection and perfect cleanliness, and by his most praiseworthy and indefatigable efforts brought a complete revolution in all kinds of wound treatment.

In Paris, with but few exceptions, the operators at the present time employ antiseptics of Bichloride of mercury, Lysol or Carbolic acid in solution, to a varied degree, about a wounded surface. Throughout Germany and at Berne a greater attempt is made to obtain the ideal in surgery—aseptic operating. One thing is apparent the world over, that in the attainment of asepticism, antiseptics to a greater or lesser degree are employed.

Turning the search-light of investigation carefully upon the clinics of Europe, I have observed that just in proportion as any one of them applied a complete and consistent aseptic technique, just in that proportion were the results satisfactory.

I may, then, properly conclude this part of the subject by the expression of the belief that the evolution of ovariotomy to the present high development is through the intra-peritoneal treatment of the pedicle, together with the use of the aseptic ligature material.

II.—The Operation and its Limitations.

Any one who has traced the development of the operation onward from McDowell, Nathan Smith, Clay and Baker Brown to Keith, Spencer Wells, Atlee, Koeberle, Battey, Tait, Bantock, Schroeder, Martin, Hegar and a host of other skilled hands, cannot fail to be impressed with the earnestness of the work and the rich material afforded for its development.

The ovarian surgery of to-day includes the operations of:

a. Ovariotomy.

b. Oöphorectomy.

c. Resection of the ovaries.

These may each be performed by cœliotomy or by colpotomy.

a. Ovariotomy.—It will be well to detail the technique as now almost universally practiced without essential variation. The sterilization of the patient, gauzes, suture material, instruments and dressings is left to the care of the head nurse. The operator and assistants wash their hands with green soap, hot water, using stiff, sterilized brushes, afterwards with Permanganate of potash saturated solution, followed by Oxalic acid, Bichloride of mercury solution, and finally sterilized cold water.

The instruments are washed with soap and a sterilized brush, and all unclean matter removed from openings where blades are joined and from the eyes of the needles. They are boiled in soda solution for five minutes before being used.

Gauze is used for sponges, which, together with towels, the gowns of operator and assistants, are sterilized by moist heat at a high temperature. The water used for sterilization of instruments, sponges and during operation is filtered through Pasteur filter and boiled. The silk, silkworm-gut and silver wire and all drainage material, if such be required, are boiled for a time just before the operation and used directly from the sterilizer.

No patient is operated upon until a careful examination of the urine has been made as to albumin, casts and sugar, besides a most important determination of the amount of the urea eliminated.

The Incision.—The operation as to technique, through abdominal incision, offers to-day no special change over a decade ago. The first requisite of the abdominal incision is, of course, that it shall provide easy, or at least satisfactory, access to the work to be done. Every other consideration must give way to this. The next leading requisite is, that it shall not appreciably add to the patient's risk. The length of the incision is largely determined by the tumor, if it be cystic or solid. The aim is for as short an incision as is consistent with efficiency, yet no serious detail should for a moment be rendered more difficult to deal with for the sake of avoiding a prolongation of the incision.

The actual length of the incision has been proven to have an infinitesimal influence on the mortality.

In the minds of many it is considered doubtful if the time-honored incision through the linea alba is the best as regards prevention

of hernia; in fact, it is almost certain that an incision passing between the fibres of the rectus would be better in this sense. It is easily demonstrated that a shorter incision through the linea alba suffices than through fibres of the rectus, so that in a small central incision the liability of harm is not great.

Emptying and Removing the Cyst. Separation of Adhesions.—A skilled surgeon will promptly decide as to the best practical means of dealing with each and all of such peculiarities in the growth to be removed. It is generally to be conceded that whatever be the condition it is always best to begin with emptying the cyst. The aspirator or simple trocar, if contents be very viscid, by incision, is found to be the most practical.

Exploring with the finger is largely to satisfy curiosity, and to begin by separation of adhesions is a double mistake, often ending in rupturing the cyst wall and its contents escaping into the peritoneal cavity. The patient is rarely turned in the process of cyst evacuation, but careful protection of abdominal incision is made by gauzes.

Ligature.—While Chinese twist-silk ligature is almost universally used for sewing the pedicle, catgut, kangaroo tendon or ox-aorta may all be used with safety, but catgut especially presents advantages possessed by no other form of material. A larger belief prevails as to the advisability and applicability in the use of the animal ligature, as introduced by Lister, in the peritoneal cavity. Still greater acceptance would exist had not the urgent protest of Zweifel against the use of the Lister method of sterilization by carbolized oil caused many surgeons to abandon catgut.

Koch first called attention to the fact that commercial catgut, as it is usually received from the manufacturer, is rarely infected with pyogenic organisms. This in a measure accounts for the absence of infection following the use of catgut, prepared by even the most questionable methods.

There have been many chemical methods of sterilization proposed, all of which are open to the objection of either failing to render the catgut innocuous, or impairing its strength, or so saturating the catgut with irritating chemicals that it acts as a local irritant when introduced into living tissue. The preparation of catgut by Mercuric chloride has been found defective and inefficient to kill germs, but simply inhibits their growth. So long as the catgut retains the Mercuric chloride, no germs will develop, but if it be treated with a solution of Ammonium sulphide, destroying thereby the Mercuric chloride, organisms will soon appear.

The most perfect means of sterilization for surgical purposes is unquestionably heat. Dry heat to a temperature of 130° C., as advised by Doderlein, or boiling several hours in Xylol according to Brunner's method, do not destroy certain spores that much resemble anthrax. Kromig has found in Cumol, a hydrocarbon compound, a valuable and efficient chemical, having a boiling-point ranging between 168° and 178° C. This is now used altogether at the Leipsic University in Zweifel's clinic, and also by Howard Kelley at Johns Hopkins University.

While this method is far in advance of any of the many chemical methods usually employed, still the transference from the boiling Cumol to Benzine, which is a part of the process of its preparation, is open to serious objections.

I have no hesitation whatever in saying that the "catgut aseptique" prepared by Isidore Froger in Paris, can safely be relied upon. It is sterilized in the vapor of alcohol at a temperature of 120° C., and then preserved in sealed sterile glass cylinders filled with bouillon. It possesses, therefore, a constant bacteriological test of its purity, announcing by the presence of a cloudiness the existence of bacteria.

Treatment of the Pedicle.—The pedicle has been subject to almost every conceivable surgical treatment.

"It has been tied entire, tied in sections, been twisted off, burnt off, crushed off, cut square off, cut off in flaps, left inside, left outside, and has been made to slough off." It has been the *questio vexata* of ovariotomy, and has no doubt been unduly magnified in importance.

In securing the broad ligament pedicle, the simplest loop and knot are the safest. The outer border should always be secured separately whenever the pedicle is broad and short, and in long pedicles when the ovarian vessels are large. The ligature, to remain secure, must make a deep groove in the pedicle when tied firmly, and the ligature must not be too thick or too thin, to make a good groove. The early union of the tissues bulging over the ligature is well known.

Skene Keith's rule will commend itself to all thinking surgeons, "The silk ligature ought to be just so thick as to withstand the strain the operator can put upon it, there is not any advantage in having it thicker." The absorption of the ligature has been authenticated by Ballance and Edmunds, the gradual destruction of the ligatures taking place by leucocytes getting between the fibres, as has been recognized by Doran, Spiegelberg, Waldeyer, Masslowsky and Ban-

tock. The pedicle of an ovary removed for chronic inflammatory changes, is less favorable for a ligature than is the pedicle of a cystic or solid tumor of the ovary.

Peritoneal Cleansing.—To Skene Keith we are indebted for fully demonstrating its extreme value. Walthard has found that long continued contact of atmospheric air with the normal serosa of the abdominal cavity, results through drying, in necrosis of the superficial cell layers, an injury which even in aseptic operations becomes an etiological factor in the development of peritoneal adhesions. This accounts in a measure at least for the tardy reaction, and even more serious results of prolonged operations on the abdominal vicera.

The abdominal flushing, formerly so frequently resorted to, was followed in many cases by more general dissemination of poisonous germs and inviting sepsis. Where careful sponging can be applied less time is consumed and it is obviously less dangerous.

Drainage.—Drainage after abdominal section is deservedly becoming unpopular, even with those who have been heretofore its most earnest advocates. It is manifestly dangerous, unless the diseased portion of the peritoneal cavity can be shut off from the healthy part. While the use of drainage depends too often upon the caprice of the operator, rather than upon sound scientific principles, yet there are and always will be cases demanding it.

We may consider drainage indicated in the following conditions:

I.—Where there is liability to hæmorrhage or excessive oozing of bloody serum.

II.—Where exudates are abundant, walling off cavities from which diseased organs have been removed, whose unyielding surfaces prevent the intestines from occupying their natural position, affording a possibility for sacculation of fluids.

III.—Where pus, urine, fecal matter or cyst contents have found their way into the abdominal cavity during the necessary manipulations of evacuation of the cyst or separation of adhesions. Proper drainage in cases of injury to bladder or intestines has resulted in recovery of many cases that presumably would have been sacrificed without it.

IV.—Lastly, conditions of acute anæmia where a rapid termination of the operation becomes necessary.

The narrow gauze bag, containing several strands of gauze, is far safer and equally as efficient as the glass tube. It is flexible and requires no cleaning, and is therefore the best method of drainage

for abdominal drainage. It removes all fluids rapidly, while that which remains is quickly absorbed. In the use of the glass tube it is worthy of note that after the second or third day it becomes infected with the staphylococcus albus found in the cuticle.

"We must," says Howard Kelley, "drain seldom, but when done it must be done thoroughly." Where formerly he drained 75 to 80 per cent. now he adopts drainage in only 10 or 15 per cent. of cases.

Ovariotomy During Pregnancy.

It is generally conceded that pregnancy offers no barrier to the performance of ovariotomy if indicated. Vinay gathered from the literature statistics of 122 ovariotomies, performed during gestation since 1885, that 4.09 per cent. died. Late in gestation abortion frequently follows, while early in pregnancy it is safe, easy, with slight chances of miscarriage following the operation. Even later the risk is less if the operation is deferred until after the puerperium.

Trendelenburg's Inclined Position.

Although originally intended for operation upon the bladder, this position has been found eminently useful for different operations involving the deep structures of the pelvis. The eye follows the hand, encouraging thereby better execution and cleaner surgery, hitherto unknown.

It must be remembered, however, that the patient may have no bleeding in the pelvis when in the elevated position, because the arterial pressure is diminished, but when the pelvis is lowered bleeding of a dangerous character may occur.

Acute flexion of the leg in this position should be avoided, as thrombosis of the femoral vein has been noted in three cases by Strauch of Moscow.

Complications of Ovariotomy.

Among the most important complications that are to be found are:

Pedicle Torsions.—Olshausen considers this complication to exist in about 8 per cent, of ovarian tumors. This is borne out in Fisher's *Thesis*, in which two hundred cases form the basis of his research. They may represent only half a turn or a full turn, and in some cases may be twisted without giving rise to distinct disturbance. According to Bachman, when the twisting of the pedicle occurs, the tumor is generally movable, and not adherent to the surrounding parts. If it has attained quite a considerable size, its form is more

or less spherical, while the pedicle is sufficiently long to permit of its twisting.

Freund has expounded the most generally accepted theory of rotation of ovarian cyst, and has pointed out the two great dangers following, namely, hæmorrhage and intestinal obstruction.

Hæmorrhage.—The control of hæmorrhage has often taxed to the utmost degree the ingenuity of the surgeon. When the abdomen is closed, no treatment short of that which is aggressively bad will influence the after-result. Nothing, therefore, should be left undone with the reservation that the case may require reopening. It is often better, I believe, to run the risk of death from shock than death from hæmorrhage. When the symptoms of concealed hæmorrhage are present, it is too late to afford the patient more than a forlorn hope. The use of the drainage tube to indicate a hæmorrhage is not to be relied upon. In case of suspected hæmorrhage the pelvis should not be elevated. The blood will gravitate thereby out of the pelvis and collect under the diaphragm, where, short of eventration, it cannot be removed. This accumulation may encourage septic peritonitis, which has often been blamed for many deaths due primarily to hæmorrhage.

Large-Sized Cysts.—The largest size tumor I have been able to find recorded is that of A. Martin's, weighing 200 pounds, removed from a patient whose weight before the operation was 290 pounds; the circumference at the umbilicus was 90 inches. Recovery.

Malignant Disease.—From the studies of 77 cases of carcinoma of the ovary, between the ages of 8 and 30 years, collected by Leopold, and also 14 cases of ovarian sarcoma by Olshausen under 30 years of age, it is clear to infer that malignant disease is to be looked for oftener about the age of puberty and beginning of the senile atrophy. According to my experience, it is of questionable value to ever remove a malignant tumor of the ovaries, as the relapse is most certain and rapid, even as early, according to Pfaunenstiel, as a month following the operation. Like the removal of all internal malignant growth, the result is notoriously unsatisfactory. After ovariotomy for a benign tumor, malignant disease may appear, and may be regarded as a late relapse. It is, however, best to esteem it as a disease in itself, and without any dependency upon the removed tumor. It is interesting to note that organs, usually the site of primary carcinomatous or sarcomatous developments, are rarely the location of secondary deposits. This is most certainly true as pertaining to the ovary.

Age.—Ovariotomy is rare in childhood; 42 cases only have been

known; the ages generally recorded are from 20 months to 14 years. The youngest case operated upon was 18 days. Old age is now no contra-indication to the operation, as shown by a report by Joseph Taber Johnson, of Washington—38 cases in persons between 67 and 82 years of age.

J. Paul Bush, of Bristol, performed ovariotomy in a patient of 84 years of age, which is the oldest case on record. The patient recovered, although a low temperature characterized the convalescence. Dr. Mary Sherwood has collected a list of 100 cases of ovariotomy performed on women over 70 years of age, in which she reports the oldest successful case on record up to date of writing, 1894, is that performed by Dr. John Homans, of Boston, the patient having reached 82 years and 4 months.

After-Treatment of Ovariotomy.

Among the early lessons that experience teaches in ovariotomy, is the futility of all elaborate regulations as to posture, catheterization and use of remedies. As to posture, that position is the best in which the patient finds the greatest comfort. Catheterization should be omitted unless retention is absolute. Very little medication is required, and if found necessary according to indications of emesis, flatulence or reactionary fever, should be administered in alcoholic dilution on the tongue.

Shock.—Subcutaneous infusions of neutral salt solution after operations, consisting of 12 to 14 ounces (372 to 434 grammes) of sterilized water, to which after partial cooling are added 30 grains (2 grammes) of common salt, with or without the whites of two eggs. This, filtered, may be injected by means of gravity into the supra-clavicular, infra-clavicular, inguinal regions, or into the buttocks. It has the advantage over the intravenous method, in that there is no danger of overwhelming the heart, the absorption of fluid being more gradual, nor of emboli on admission of air into the veins.

Pain.—No opiate is considered allowable.

Thirst.—This generally is the first complaint of the patient and can be assuaged by hot-water enemata. Hot water stimulates the shocked system, hastens depletion, checks vomiting and quiets irritation. Ice and cold drinks must be avoided.

Food.—Absolutely no food or drink for twenty-four hours. Either barley water or rice water may be used, or unfermented grape juice diluted with soda water often proves a welcome refreshment. Milk in small quantities, diluted with hot water, to which one may, or may not, as desired, add lime water, becomes of service after the

third day. Meat broths should not be used until bowels have moved. After an action of the bowels has been obtained, fish, fowl or meat may be safely given.

Bowel Action.—Ordinarily enemata will suffice on the third day. Where signs of gastro-intestinal irritation exist, as shown by distension of the transverse colon, drugs may be employed; preferably a few broken doses of Merc. dulcis, $\frac{1}{10}$-grain doses, followed by a saline purge, will promptly relieve. Sickness and flatulence are indications for a return of the enemata.

Sequelæ.

Adhesions.—Whether intestinal or omental to abdominal wall or pedicle, it is rare in aseptic cases which pursue an apyrexial course to have adhesions. It is mainly in the early years of the surgeon's work, before clear operative technique has been formulated, or by some accidental infliction of infection in the hands of the more experienced that adhesions result as the outcome of a local peritonitis announced by pain in the subsequent history of the case.

Fistulæ.—It is hard to conceive where complete and clean surgery has been done that this sequel could follow, and thanks to bacteriological training and investigation, they are becoming less frequent the world over. Infected ligatures, especially when large, are prone to cause fistulæ. Ligatures should be few and small, having the minimum number of knots. Drain tubes are often the starting-point of fistulæ, as well as infection of the wound by dressing, stitch abscesses, placing of the stump of the uterus into the lower angle of the wound or injury to the gut, bladder or ureter. These fistulæ must be treated by good drainage, the removal of the appending ligature or other object, by probing, packing and destruction of the fistulous tract. The drain may simply be abdominal, or if practical the vagina may be punctured through the posterior fornix, and through drainage established.

Herniæ.—It is now held that where the fascia has firmly united there is seldom a ventral hernia. The key-note to success rests in the union in the abdominal wound of like tissues.

Death after Ovarian Operation.

Sepsis unquestionably takes the first place, and has ruined many a promising case. The cause lies, as a rule, elsewhere than in the pedicle. When a pedicle is the seat of change to which a patient's death may fairly be attributed, that change is usually a slough at the base of the cyst, a piece of colloid material left behind, an abscess, or a plugging of a large vein due to transfixing ligature.

The sloughing of a great piece of tissue left on the distal side, a piece too extensive to get early and free nutrition from the proximal side, will place the patient's life in extreme peril.

Mortality in Ovarian Surgery.

It was the varied mortality record, given by the different operators at home and abroad, that prompted the writing of this paper. It overshadows in importance and interest any other chapter in the study of the subject.

In the hands of some of the most famous operators the death-rate is yet 8 per cent., which leads to the belief there is something yet to attain in the perfection of technique. If we begin at the thirteen operations which constituted the life work of Ephraim McDowell, with a mortality of 33 per cent., and pursue our study along the century of evolution through which ovariotomy has passed, to the brilliant success of Jacobs, of Brussels, whose record is ½ of 1 per cent., as given to me in conversation with him while in attendance at his clinic last autumn, there is left a wide variation in percentage, which has been traversed by the scores of operators during the process of perfection of operative technique in ovarian surgery.

According to Ernst Busack, a list of 3674 ovariotomies by Wells, Keith, Koeberle, Thornton, Tait, Olshausen, Schroeder and A. Martin, shows a mortality of 13.33 per cent. Since the compilation of this report in 1894 a more perfect technique has very perceptibly lowered the mortality. Of the 42 cases previously referred to as having been operated on in childhood between the ages of eighteen days and fourteen years, 37 recovered and 5 died. Concerning the mortality in old age following this operation, it is interesting to note that of the 38 cases reported by Johnson only 2 deaths occurred. In Dr. Mary Sherwood's report of 100 cases over seventy years of age, there appears a mortality of 12 per cent.

Routh, of London, has brought to the notice of the profession the embarrassing fact, although highly profitable, that the mortality of diseased annexa left to themselves varies from *nil* to 4 per cent., but the mortality of cases operated upon by abdominal section varies from 2.5 per cent. to 12.1 per cent.

b. Oöphorectomy.—Simultaneously, although unconscious of the workings of the other, Hegar, of Freiburg, and Battey, of Georgia, introduced the operation of oöphorectomy. Hegar's operation designed to remove ovaries for disease for causes other than ovarian cystoma. Battey introduced oöphorectomy to establish an early

menopause. Tait brought into popularity the removal of the ovaries for diseased tissue of the ovaries and tubes.

From the work of these surgeons the operation has passed on from merit to demerit until a healthy reaction has been established concerning the value of the procedure. Howard Kelley has formulated the following as causes for which we now remove ovaries and tubes:

"I.—Ovarian cystoma.

"II.—Menstrual insanity, where insanity is associated with marked menstrual exacerbations.

"III.—Menstrual epilepsy.

"IV.—Osteomalacia.

"V.—Extreme dysmenorrhœa, rebellious to every other method of treatment, in rare instances.

"VI.—Occasionally to check the growth of myomata, which is disputed territory, still it would seem to me that certain cases justify the operation."

The controversy which has been carried on between those who would remove and those who would preserve the uterine annexæ, has kept alive the discussion in regard to the indications of inflammatory affections of the appendages and in pelvic suppuration. The immediate results of the operation, which asepsis has rendered so safe, have given an aggravated impetus to the demolition of the tubes and ovaries, but as the remote results are to be considered, the after conditions have been accurately investigated, to decide upon the real advantages of the operation. This is especially true of oöphorectomy. Certain it is that the mania for destruction should be held in check.

This gives me a fitting opportunity to refer to the importance of oöphorectomy by colpotomy. The vaginal incision either in the post-vesical space, or posterior vaginal fornix, opens up a wide field for safe, conservative, intra-abdominal work. A. Martin operates extensively on diseased ovaries through incision in the utero-vesical space. Pichiven, of Paris, has perfected the technique of operating through the posterior fornix, and his successful work along this line confirms the earlier work of Thomas and Byford of our own country.

Progress in surgical manipulations has for some time travelled along the inferior pelvic route, thereby opening up great possibilities for the future in both ovarian and tubal surgery.

c. Resection of the Ovary.—The abuse of oöphorectomy has resulted in a reaction among surgeons in favor of conservative treatment of

the female pelvic organs—a reaction that was participated in by many eminent operators. The ovaries are raised from their bed of adhesions if such are found, and partial resection of the diseased portion of the ovary, the cut edges, if healthy, being brought together and stitched, or ignipuncture of the ovary if cystic, and fixing the ostium of the tube to the ovary.

Martin's method consists in the resection of the ovary, but without ignipuncture, resection of the diseased portion of the tube and formation of the new ostium. Polk releases the adhesions by incision or digital separation, thus permitting the organs to regain their integrity. Cystic ovaries are treated by ignipuncture if the cysts are small; with larger cysts by enucleation, and subsequent cutting away of portions by a V-shaped incision.

It is questionable if puncture of the small cysts in micro-cystic degeneration of the ovary does much good, as the interstitial disease co-existing still continues. Zweifel and Pozzi employ the actual cautery to a large degree in ovarian surgery and the latter has of late modified his *modus operandi* by opening all of the small cysts by the actual cautery, which has been found to favor restoration from chronic ovaritis.

Looking from the unbiased standpoint upon conservative operative work upon the ovaries, it is uncertain whether we have yet formed a just estimate of their value. The interstitial disease which has pre-existed still continues, which separations of adhesions and ignipuncture or even extensive resection cannot wholly relieve; the tendency, therefore, for reinstatement of pre-existing conditions is obvious. Time, the great adjuster of all human claims and inventions, alone can decide of the merits of this procedure in surgery.

Goodell has discussed the conservative treatment of the female pelvic organs, and remarks that the question hinges on the effect of removal of the appendages upon women. Months and years sometimes elapse before the victim of the operation escapes from perspirations, heat flashes, skin tinglings, nerve stress, nerve storms and other vaso-motor disturbances which are found hard to bear. Mental disturbances, as morbid brooding, low spirits, melancholia, suicidal impulse and even insanity have followed ablation of appendages. It has not yet been definitely settled, whether these results follow directly from the nerve shock of the operation, with its emotional environment, or to the absolute need of the ovaries for mental equilibrium. This leads to the conclusion entertained by many operators, that complete castration is inadvisable where it can possibly be avoided, and has been performed far too frequently.

SEQUELÆ OF OÖPHORECTOMY AND OVARIAN RESECTION.

I.—Observations of Briere, De Boisment, Börner, Kirsch, Krieger and Tilt have shown that after a menopause has been established *post-operationem*, the patient gains in weight, with a marked tendency to obesity. This will follow, to a varying degree, in about 78.8 per cent. of cases so treated.

II.—Martin, Hegar, Glaevecke and Pean have observed like effect as to libido sexualis after these operations.

It was present in 28.1 per cent.

Diminished in 46.8 per cent.

Ceased in 12.5 per cent.

Increased in 12.5 per cent.

III.—There is a concensus of opinion that the operation results in an atrophy of the uterus and vagina to a greater or less degree, according to whether the whole or part of the annexæ are removed.

IV.—Continuation of menstruation in certain cases, after bilateral removal of the annexæ, has given rise to a mooted point as to its cause.

There is good reason for the opinion entertained by some, that where menstruation continues it is due to the ligature in the broad ligament being placed high up in the tissues, and not including thereby the main branches of the ovarian artery. The Tait operation is more apt to cause suppression, because the needle is placed deeper, and the ligature cuts off all the blood supply from the ovarian artery to the broad ligament and upper part of the uterus. Again, some cases of continuation of a seeming menstruation is in reality a uterine flux, due to diseased endometrium, and must be looked upon in the light of a metrorrhagia, as proven by the value of curettement in suspending the flow. In conclusion of this section, it deserves mention that Bigel claims to have found the "third ovary," present eight times in three hundred necropsies, but Bland Sutton denies that one has ever been proven to exist.

III.—SUTURING THE PARIETAL INCISION.

From the tabulated list of the operators and their methods of closing the abdominal incision, it will be seen that great attention has been paid to the subject, which its importance justly deserves. Through aseptic work primary union is easily and almost universally secured by any method. Stitch abscesses are the result of filth, and are avoidable. The variety of methods chiefly arises from a desire to avoid the subsequent occurrence of ventral hernia.

J. Greig Smith says: "There are only a few good methods of

closing the wound; there is an endless variety of bad methods in making it." The leading principles involved in a proper closure of the parietal incision are:

a. Each divided structure should be placed and united opposite its fellow. The importance of this thought is self-evident, and the separate suturing of each parietal layer so generally adopted, is certainly a refinement in practice.

b. Sutures should not be drawn tighter than is essential for apposition of broad raw surfaces. Strangulation of the edges and cutting of the sutures will certainly follow, in a measure at least, the disregard of this rule.

c. Sutures should be allowed to remain *in situ* as long as possible. It is a temptation to remove stitches all too early. It is certainly a mistake, as proven by the great good that has arisen from buried sutures. The uniting medium is easily stretched even at the end of a fortnight.

The Bantock silkworm-gut stands unrivalled, having one objection only, that it easily becomes imbedded. Silk is very apt to cause suppuration if retained long, even with the closest care. Whatever suture material is used, it is essential that it be non-absorbent and will not act as a capillary drain.

Appended is a list of the methods of suturing of the abdominal wall by several of the prominent continental operators, followed by twenty-three surgeons of the Homœopathic School, who have kindly given their methods. I desire to place on record the method of Professor William Tod Helmuth, of New York, which presents distinctive peculiarities, worthy of note, and which he calls the "sausage stitch." I shall quote from his letter, better expressed by himself, as follows: "I am not so sure that when I used the wire and put nothing but deep sutures close together with a few superficial skin threads, that my results were not almost as good as they are at present. This is the way I do now, or rather the way my son does, for I sew very little now-a-days. First, the peritonæum is brought accurately together over the stump (if there be one) with fine carbolized gut over-hand stitch; second, the muscle is then, by a round circular stitch with chromatized gut, made into a cylinder; third, deep stitches of silkworm-gut are then passed through the skin, the centre of the roll (or sausage), and brought out on the surface on the other side and knot tied; fourth, if the aponeurosis can now be found, it is brought together with catgut; fifth, the superficial skin catgut sutures are then taken and tied, to prevent inversion; sixth, the deep sutures are then brought up and tied.

In the last step the muscle fibre is lifted close under the integument, and *grows there*, and this is the great point. We have had no hernia since this method has been adopted."

In closing.—As we review the records and methods of the early workers in this department of the healing art, with the statistics and technique of the present time, that mind must be unresponsive indeed which does not leap with satisfaction because of the light which experience in aseptic surgery has developed in the conservative work upon the ovaries and tubes, opening to view the far-reaching possibilities that the future has in store for this procedure.

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Tait.—Diseases of the Ovaries.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layers.	Suture Material for each Layer.	Point in Wound Where Closure Begins.
Czerny, of Heidelburg	Two.	1. Skin. 2. Through and through.	Silk.	Lower.
Dührsen, of Berlin.....	One.	Through and through.	Silkworm-gut.	From above downward.
Wm. Alex. Freund, of Strassburg.....	Two.	1. Skin. 2. Through and through.	Silk for skin. Silver wire through and through.	Suture taken from both ends of the wound alternately, first upper, then lower.
Gusseran, of Berlin.....	One.	Through and through.	Silk.	Below upward.
Hahn, of Berlin.....	One.	Through and through sutures.	Silk.	Lower angle.
Jacobs, of Brussels.....	Three.	1. Peritonæum. 2. Fascia. 3. Skin and fascia.	Silk for peritonæum and fascia. Silkworm-gut for fascia and skin.	Centre.
Kraske, of Freiberg....	Two.	1. Skin. 2. Through and through.	Catgut for cutaneous. Silk for through sutures.	Upper.
Leopold, of Dresden...	Two.	1. Skin. 2. Through and through sutures.	Silk.	Above.
Landau, of Berlin.....	Two.	1. Skin. 2. Through and through.	Catgut for skin. Silver wire for through sutures.	Upper angle.
A. Martin, of Berlin ...	Two.	1. Skin. 2. Through and through.	Silk for through and through. Catgut for skin.	Pubic end of incision.
Olshausen, of Berlin....	Four.	1. Peritonæum. 2. Fascia and muscle. 3. Fat. 4. Skin.	All of catgut.	Upper angle.
Péan, of Paris.....	Four.	Running catgut unites. 1. Peritonæum. 2. Fascia and muscles. 3. Skin. 4. By three silk sutures two inches from wound through skin and fat.	Catgut and silk.	From above downward.
Pozzi, of Paris.....	Four.	1. Peritonæum. 2. Fascia. 3. Skin. 4. Through sutures.	Silk through sutures. Catgut for peritonæum, fascia, skin	Above.
Pichiren, of Paris.....	Two.	1. Peritonæum, muscular and fascia. 2. Through and through.	Silk and silkworm-gut.	Below upward.
Richelot, of Paris.....	Two.	1. Peritonæum, muscle and fascia. 2. Skin and fat.	1. Catgut. 2. Silk.	Upper angle.
Sänger, of Leipsic.....	Two.	1. Skin. 2. Through and through.	Silk.	Centre of wound.
Viet, of Berlin.....	One.	Through and through.	Silk.	Upper.
Zweifel, of Leipsic.....	Four.	1. Peritonæum. 2. Fascia. 3. Skin. 4. Through sutures.	Silk for through and through. Catgut of separate layers.	Above.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layers.	Suture Material for Each Layer.	Material Used in Through and Through Sutures, if Used.	Angle of Wound Where Closure Begins.	Per Cent. of Cases Followed by Hernia.
1. C. E. Fisher, M.D., Chicago, Ill.	Three.	1. Peritonæum. 2. Fascia and muscular tissue. 3. Integument and muscular tissue.	Sheepgut for peritonæum and for second layer silkworm-gut. Silkworm-gut for integument.	Occasionally chromatized sheepgut, and silkworm-gut alternately.	Middle of wound, rarely from upper angle.	No hernias.
2. Wm. Tod Helmuth, M.D., New York.	Five.	1. Peritonæum. 2. Muscles — circular stitch made into a cylinder. 3. Through and through, avoiding peritonæum. 4 Fascia. 5. Superficial skin.	Carbolized gut for peritonæum and skin. Chromatized gut for muscles and fascia. Silkworm-gut for through and through.	Silkworm-gut.	.....	None.
3. J. M. Lee, M.D., Rochester, N. Y.	Three.	1. Peritonæum. 2. Fascia. 3. Skin and fascia.	Continuous catgut for peritonæum. Interrupted catgut for fascia, and silkworm-gut for skin and fascia.	Not used except in cases of extreme emergency.	Peritonæum from above. Fascia from below and skin and fascia both above and below. Thus: . 1 . 4 . 3 . 2	About 1 per cent.
4. Wm. Davis Foster, M.D., Kansas City, Mo.	Three.	1. Peritonæum. 2. Fascia, aponeuroses and muscles. 3. Integument.	1. Imported, carbolated, chromatized catgut. 2. Same. 3. Silver wire, No. 30.	Sometimes — always silver wire.	Depends upon condition of incision. Do not know that there is any controlling factor.	Operating for twenty-five years, only one hernia, result of inattention of nurse. Opinion: If surgeons will ignore classic rule of incision in median and let knife stray a little aside to muscular tissue, post-laparotomy hernia will disappear.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layers.	Suture Material for Each Layer.	Material Used in Through and Through Sutures, if Used.	Angle of Wound Where Closure Begins.	Per Cent. of Cases Followed by Hernia.
5. W. E. Green, M.D., Little Rock, Ark.	Four.	1. Peritonæum. 2. Interrupted, all structures down to peritonæum. 3. Fascia. 4. Skin.	1. Continuous catgut. 2. Silkworm or silk interrupted. 3. Interrupted catgut. 4. Interrupted catgut.	No.	Upper angle.	Never had case of hernia.
6. Geo. F. Shears, M.D., Chicago, Ill.	Three.	1. Peritonæum. 2. Fascia and muscle. 3. Integument.	Catgut for peritonæum and muscle. Silkworm-gut for skin.	Not very often—silkworm - gut when I do.	Usually the upper.	I do not know; almost impossible to follow cases. Confident cases few, and per cent. small.
7. John W. Streeter, M.D., Chicago, Ill.	Three.	1. Peritonæum. 2. Fascia. 3. Integument.	Catgut.	No.	Immaterial.	None, unless drainage has been used.
8. Horace Packard, M.D., Boston, Mass.	One, usually.	Occasionally in very thick walls I unite the muscle sheath with catgut. Sometimes a few superficial catgut through skin.	.....	Yes, silk. Occasionally silkworm-gut.	No rule, but usually in Trendelenburg's posture below. Otherwise, above.	None, if proper support be given for twelve months after operation.
9. S. B. Parsons, M.D., St. Louis, Mo.	Three.	1. Peritonæum to peritonæum. 2. Muscle to muscle. 3. Skin to skin. Peritonæum should never be sewed to muscle-structure, as is the case in through and through sutures.	Chromatized catgut for peritonæum; sometimes kangaroo tendon and silk for muscle and skin.	Very rarely; then use silk.	Upper. After uniting peritonæum, I place all muscle sutures in position before tying any of them and so skin sutures.	Can not give per cent., as unable to state number operated upon.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layers.	Suture Material for Each Layer.	Material Used in Through and Through Sutures, if Used.	Angle of Wound Where Closure Begins.	Per Cent. of Cases Followed by Hernia.
10. Chester G. Higbee, M.D., St. Paul, Minn	Usually only one.	Certain cases unite peritonæum, muscle and integument separately.	When only one layer silk—more catgut.	Silk.	Lower (inferior).	Have not had a case of hernia.
11. Chas. E. Walton, M.D., Cincinnati, Ohio	.....	.....	.....	Yes, silkworm or silk; no preference.	Upper.	Possibly 2 per cent.
12. E. H. Pratt, M.D., Chicago, Ill	Three, all by continuous sutures, staying once or twice in the middle seam.	1. Peritonæum. 2. Aponeurosis. 3. Skin—the latter by subcutaneous stitching.	Catgut.	No.	Usually from lower; it does not matter which.	No case of hernia as yet. All cases satisfactory, although a very small number partly healed by granulation.
13. Homer I. Ostrom, M.D., New York, N. Y	When abdominal walls, ordinary thickness, 2 layers.	1. Peritonæum. 2. Muscles, etc.	For peritonæum, catgut. Muscles, silkworm-gut.	Catgut is usually a continuous suture. Silkworm through and through.	Lower angle.	3 per cent. Small per cent. attributed to short incision, and leaving silkworm-gut three or four weeks.
14. J. H. McClelland, M.D., Pittsburg, Pa	No fixed rule, usually in 2 layers sometimes 3.	1. Peritonæum. 2. Muscles and integument together or separately.	Fine catgut for peritonæum; silkw'm gut for abdominal parietes; if muscles separately, then catgut.	Silkworm-gut.	Immaterial.	One case in fifty after Cæsarian section.
15. Alonzo Boothby, M.D., Boston, Mass	Three.	1. Peritonæum. 2. Fascia. 3. Integument.	Catgut.	Only for stay sutures where likely to be strain on catgut.	Lower angle.	Out of two hundred cases, since I have adopted this method, have not had a single case of hernia.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layers.	Suture Material for Each Layer.	Material Used in Through and Through Sutures, if Used.	Angle of Wound Where Closure Begins.	Per Cent. of Cases Followed by Hernia.
16. Geo. A. Southwick, M.D., Boston, Mass.	Three, with aid of supporting sutures thro' abdominal wall.	1. Peritonæum. Fascia, rectus, muscle, skin.	Catgut for each.	Yes, as stay sutures to above layers, silkworm - gut. Sometimes silk, but not so satisfactory.	Superior.	One case after ventral fixation, due to suppuration, along course of deep sutures, and patient obliged to be on her feet soon after operation. Beside my method of closing abdominal wall, wearing of abdominal bandage for one year.
17. T. L. Macdonald, M.D., Washington, D. C.	Usually one, but vary the method	Peritonæum, fascia, muscles and skin.	All buried sutures are catgut. I use silkworm sutures for through and through.	Silkworm-gut.	Lower angle.	2 per cent.
18. H. Willard, M.D., Allegheny, Pa.	Two.	1. Peritonæum. 2. Skin, muscles and fascia.	1. Catgut. 2. Silkworm-gut.	1. Continuous. 2. Interrupted.	Upper angle.	None. Hernia follows those cases where only one row of sutures. By first suturing peritoneum obviates hernia.
19. De Witt G. Wilcox, M.D., Buffalo, N. Y.	Three.	1. Peritonæum. 2. Muscles and fascia. 3. Integument.	Small catgut for 1st; chromatized catgut for 2d and 3d.	Occasionally, if incision very long, use silk or silkworm in addition to three layers.	Above always.	One in early practice, when using through and through silver wire. Since using three sets of sutures have had none.
20. F. E. Doughty, M.D., New York, N. Y.	Three, in addition to tension sutures.	1. Peritonæum. 2. Muscle and aponeurosis. 3. Integument.	1 and 2. Catgut. 3. Alternating silkworm-gut and catgut.	Yes, two or more to relieve tension, according to length of incision. Silkworm-gut.	Generally from below; above if intestines inclined to protrude, opposite method.	Very rarely, though great majority of my cases have passed from my observation, and I do not know their subsequent history.
21. Wm. B. Van Lennep, M.D., Philadelphia, Pa.	Four.	1. Peritonæum. 2. Fascia and muscle. 3. Fat. 4. Skin.	Continuous catgut for first three. Continuous fine silk for skin.	No.	Usually above.	None of complete closure.

Name.	No. of Layers of Sutures.	Name of Structures United in Separate Layer.	Suture Material for Each Layer.	Material Used in Through and Through Sutures, if Used.	Angle of Wound Where Closure Begins.	Per Cent. of Cases Followed by Hernia.
22. John E. James, M.D., Philadelphia, Pa.	Three.	1. Peritonæum. 2. Tendon or sheath of rectus muscles. 3. Skin.	1. Catgut or fine silk. 2. Silver wire and leave them in. 3. Silkworm-gut or silk, and remove in eight days.	No, unless in emergency requiring great haste, then silkworm-gut.	Upper angle.	None since above method for nearly a year.
23. O. S. Runnels, M.D., Indianapolis, Ind.	Three.	1. Peritonæum. 2. Abdominal aponeurosis. 3. Integument.	Latterly employed No. 2 catgut for each, though formerly employed silk for fascia.	Have frequently employed this plan, using silkworm sutures.	Lower angle.	Had about 2 per cent. under through and through sutures; under triple sutures of gut have had no failure of union. I abandoned buried silk sutures on account of abscess from non-absorbing that occasionally happens. My integumentary suture is also buried, leaving no stitch-holes.
24. James W. Ward, M.D.; Florence N. Ward, M.D., San Francisco, Cal.	Four.	1. Peritonæum. 2. Fascia. 3. Skin. 4. Through and through.	Catgut for all, but through and through when silkworm-gut is used.	Silkworm-gut.	Above.	Where three layers of sutures and aseptic suture material has been used, no hernia has resulted. Before adopting this method and the use of Froger's catgut, the per cent. of hernia was about 3.

REPORT

OF THE

SECTION IN CLINICAL MEDICINE.

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Sectional Address.

By George Royal, M.D., Des Moines, Iowa.

Before giving you a hurried review of the progress which has been made in the line of Clinical Medicine during the past year and offering a few suggestions, I want to thank the members of this bureau for the hearty co-operation they have given the officers in trying to make it practical and helpful to the general practitioner.

The program in your hands gives you a fair idea of the scope of work which has been undertaken. The work is of the usual character, such as has been done for the past ten years. Please remember this last statement in connection with what I shall have to say further on.

Electricity comes in for a large share of attention this year. Dr. W. H. King will tell us all that has been discovered in regard to this subtile agent up to the present time, giving especial attention to "Roentgen's Discovery," while Dr. F. Parke Lewis will give us a brief résumé of the practical uses to which the X-rays may be put. Dr. J. C. Daily will then give us the more general uses of electricity, making a strong plea for their application in practice. Dr. Kenyon calls our attention to the "Vertebræ," while Dr. Williamson will speak of what may be discovered in the vertebral canal under certain conditions. Dr. Sherman will throw out a few "suggestions," which should receive careful attention from the members of this bureau, because I am convinced that the average practitioner does not appreciate the great advantage a thorough knowledge of psychology would afford him in the practice of his profession. The contagious nature of tuberculosis and the value of tuberculin in the treatment of disease will receive due consideration. A comparison of the "Old and New Methods," especially in regard to the treatment of appendicitis, will demonstrate to us whether we are really making progress. Dr. J. C. Fahnestock will inform Dr. Van Baun how much the environment had to do with the fatality of his typhoid fever cases. Dr. Schley will show us the error of our ways, and Dr. Sawyer will demonstrate to us how much of this error depends upon artificial or drug miasms. After Dr. T. C. Williams has made a thorough examination of the heart, and Dr. Hanchett has told us what the practical physician is and should be, Dr. Walter will be able to form correct conclusions as to the results of Hahnemann's law.

Since our last meeting the usual number of books and pamphlets have been published. As most of these will receive attention in other bureaus, I will simply mention them without comment: second volume of Goodno's *Practice of Medicine;* a translation of *Hahnemann's Defence of the Organon;* Fisher's *Diseases of Children;* a new edition of *Chronic Diseases;* our *Text-Book on Surgery;* a repertory of Hering's *Guiding Symptoms of our Materia Medica; The Practice of Medicine*, by Custis; the *Therapeutics of the Eye*, by Boyle; *Helmuth House Reports*, and finally *Martin's Manual of Nervous Diseases.*

What our school most sadly needs is a text-book on nervous and mental diseases—something after the manner of Ranney's *Lectures on Nervous Diseases*. Something which will give us a fairly exhaustive and yet concise ætiology, pathology and symptomatology of nervous and mental affections, followed by the treatment brought down to date. This treatment should include not only a clear and exhaustive presentation of the remedies which have proven efficacious in the hands of the experts of our school, but short and concise directions for auxiliary treatment, such as restraint, feeding, etc. The only new discovery of the year worthy of notice will be presented by Dr. King at the close of this address. No new cure-all or specific heralded by the popular press or paid for at so much per line has been foisted upon the credulous public during the year. A desperate effort has been made by the friends of anti-toxine to keep that fad before the public mind. Their effort has been fairly successful, but even its warmest friends realize that the anti-toxine craze has had its day. The remedy (after a thorough and scientific investigation, *i.e.*, proving by our school), if it shall be worthy of such a name, will take its place with Koch's lymph, to be used when the symptoms call for it, providing the symptoms shall not be found identical with those of Carbolic acid. It is possible that there may be found by proving anti-toxine a group of symptoms which may find *their* similimum in certain cases of diphtheria, but as yet I believe we are ignorant of such symptoms. It is greatly to be regretted that so many of our school, for reasons best known to themselves, yielded to the clamor of public opinion and entered the wild and disgraceful chase after that *ignus fatuus* to which that most dignified and respectful of the Old-School journals, the *Medical Brief*, applies the beautiful and significant name of "horse-juice."

And now for the main thought or suggestion which, as chairman, I have to offer: Although a teacher of materia medica, I have always endeavored to teach my students that as thorough and complete a knowledge as possible of the ætiology, pathology, diagnosis and prognosis of diseases was essential for the perfect equipment, not only of the practitioner, but equally so for the student of materia medica. I have always contended that the successful Homœopathic physician must be perfectly familiar with the red thread (call it genius, if you please) running through every disease, so that he could quickly match it by a similar thread running through a drug. During the past winter, while reading the *Organon* anew, for the purpose of preparing myself for the Materia Medica Conference, I have

been more than ever impressed with *this* idea. Because, in the *Organon*, Hahnemann first gives directions for what we have been accustomed to call "taking the case," and then supplements these directions by others, giving instructions for the proving of drugs, I was more than ever convinced that a thorough knowledge of the former is necessary to a clear and comprehensive understanding, not only of the provings of drugs, but of their application. But with a firmer conviction on this subject arose a question, an important question, viz., where are our students to obtain this much-desired knowledge, especially that of pathology? What text-book has our school which will give them this information; or, still further, what data have we collected for such a text-book? Does there exist any Old-School authority which we can unreservedly recommend? Can the *natural course* of any disease be traced through that mass of rubbish which they call pathology; the result partly of the disease, partly of the heroic doses of powerful drugs, administered either to the patient himself or his ancestors; the entire mass so colored as to adapt it to their ever changing theories? Hoping to answer part of the question, I pulled down my Raue, Dickenson and Lilienthal, but they were neither accurate nor exhaustive enough to answer the purpose. I then looked up Arndt's system of medicine, also Goodno's, only to find that they had been delving in the same mine as our Allopathic brethren, evidently having taken them as their authority.

The result of this investigation forced me to the opinion that for the scientific and practical purposes, which the present times demand, *we* have no pathology of our own, and that the pathology of the Old School is worse than none. But never having given the subject special attention, I realized that I was not a competent judge, and decided to suggest to this body that the teachers and students of pathology form an organization similar to the American Materia Medica Association. Let this organization formulate plans for work during this meeting. Let them utilize the material now at their command in private and public hospitals, and construct a pure and practical pathology which when used together with our reconstructed and purified materia medica will elevate our beloved system of medicine to that exalted position which its friends so earnestly desire it to attain and know it to deserve.

The above was all I have intended to present, but two or three days after writing it I received my April *Clinique* and read an editorial along the same line, evidently from the pen of that all-around

specialist, Dr. Ludlam. I at once wrote Prof. Ludlam and obtained his consent to use it. I will quote it in full:

"*The Natural History of Disease.*—If it is the duty of the physician to protect his patient against disease and also against injurious medication, how shall he do either intelligently without a knowledge of the *natural history* of the one and of the pernicious propensity to the other? And what of the habit of divorcing these two essentials to the successful practice of the healing art? Why should one set of doctors insist that to have found the specific cause of a fever or of an inflammation is all that one needs to know in order to cure it, any more than another should hold that because a remedy or remedies have disposed of certain morbid symptoms, therefore it is foolish to inquire into the condition, local or general, upon which those symptoms depend? And are not both these classes mere fractional physicians who hold to half-truths and nothing more?

"We have sometimes thought it a pity that the members of our own school of practice had not broadened the scope of their vision somewhat. For, suppose that while they were studying the action of remedies upon the healthy, and thereby establishing a rational basis of therapeutics, they had taken advantage of the opportunity afforded for the study of the natural history of disease unaccompanied by the effects of drugs. Nobody else has ever had such an opportunity, for no other class of physicians would or could have kept their patients out of harm's way from overdosing as they have done.

"Since the essentials of Homœopathy were first put to the bedside test three generations have come and gone. Does any one suppose that the prohibition of crude drugs in the families that have been exclusively under its treatment meanwhile has not been beneficial in a marked degree, or that when their descendants are ill the physician has not a very much better chance to know and cure their ailments than if they had been drugged in the old way all this time

"We submit that now that an immense amount of work has been done upon our materia medica; now that our forces are so well organized and that therapeutics is properly becoming a specialty with us, and now that our field of private and hospital practice has become so large and fruitful, we shall avail ourselves of the opportunity to study the natural history of disease when it is absolutely free from all drug disorders and complications. To that end we

suggest the establishment of a bureau in the American Institute of Homœopathy for this express purpose. Let us enter upon the new century with a new motive and fresh inspiration."

I most heartily endorse this editorial with one exception. I believe the Institute has bureaus enough already, and that while the Bureau of Clinical Medicine and Pathology has always had a goodly supply of interesting and instructive papers, yet most of them properly belonged to other bureaus. This bureau has always been considered the handmaid of materia medica, and as such should undertake this new work.

DISCUSSION.

T. C. DUNCAN, M.D., Chicago, Ill.: I listened to the paper with a great deal of interest.

The recommendation to restudy disease and to arrange its natural history as it develops is a very practical one.

Take any disease, bronchitis for example, and what is its natural history? It begins, as a rule, with an inflammation of the larynx and trachea, and travels down to the lesser bronchi and then travels back again, getting well from below up. The attack lasts altogether about two weeks. Common people generally say, I have taken a severe cold and it is going down on my lungs. With older people the highest fever is at the commencement of the attack, but with little children the fever is in the middle of the attack. When the disease reaches the smaller bronchi the fever is always increased in children, and when the inflammation begins to subside the fever is reduced and the cases get better. The disease seems to retrace its steps.

The natural history of disease is a very interesting study, but I have searched our text-books through, and I am not able to find very much information on the subject—nothing like what I have just given.

We have as Homœopaths been able to arrest many diseases in the first stages, and I have often done so with bronchitis. When you get bronchitis in the first stage, in the pharynx Merc., in the trachea Aconite, in the larger bronchi, Bryonia will arrest it, but when it gets down to the lesser bronchi, then Belladonna may be the remedy. When this disease is on the return many complications may arise that will necessitate a close selection of the similar remedy.

T. P. WILSON, M.D., Cleveland, O.: I arise for the purpose of keeping the ball rolling.

We want to have a good time all the evening and we want to hear from every one briefly.

I have known the importance of this subject for a long time, but I have been like a lone prophet in a wilderness.

Twenty years ago I asked if Homœopathy had any pathology, and I was answered "No."

Many times I have heard it remarked that Homœopathy had no pathology for a basis, and therefore was not scientific.

We have got to build a pathology, there are a thousand reasons for this undertaking.

If you think you know what pneumonia is, or what typhoid is, you are very much mistaken, for the reason that you do not see a case except when it is modified with some drug action.

An Allopathic doctor, as soon as he is called in to see a case, gives something to make a definite impression on the condition; that is what the patient wants and it is what the doctor wants, but now, after the patient has been sick for twenty-four hours or forty-eight hours, he has had medicine enough to put an entirely new aspect on it. You cannot study pathology in this way, because medicine given in any dose will make a decided impression. Sulphur 30 may make an impression like a cannon-ball.

If you simply give the patient food, then you can study the pathology without any drug complications, and this, in my opinion, is the only correct way to build a reliable pathology.

ROBERT WALTER, M.D., Walter's Park, Pa.: I also will try to keep the ball rolling.

Dr. Duncan has given us the pathology of one disease, and Dr. Wilson follows with the assertion that we cannot under present methods learn the correct pathology of any disease.

I think the practice of Homœopathy gives us a better chance to study pathology than any other school, because the remedies applied do not produce so decided a drug action; therefore, we can observe the pathological symptoms much better.

I would like to suggest that, in the *Organon*, Hahnemann starts us on the right way to learn pathology. He does not carry it out very fully, but he gives us the only correct idea, the only thing, to my mind, which will lead medicine towards a scientific basis.

When you formulate that idea you will have something to guide you. Every disease begins with an irritation, each individual bioplasm is endowed with the same instincts that the body as a whole has, and immediately following irritation comes congestion, which means that nature is marshaling her forces for repairing the damage. Then follows inflammation as the process of repair.

Every surgeon depends upon this curative process to heal his wound, and you will find great help in your cases if you will study Hahnemann's idea and develop it as it may be developed.

W. H. HANCHETT, M.D., Omaha, Neb.: I want to heartily second the suggestion of the worthy chairman of this bureau.

Pathology is of great importance to us if we expect to do thorough and systematic work.

I think if we would follow out the systematic course in this bureau which he suggests it would be a most excellent idea.

Fevers, we say, are a pathological condition; now if we would

have several papers for next year on typhoid or malarial fever, and have the writers follow closely the history of the disease and give method of treatment, with results, I think we could derive great benefit thereby.

We are charged by some that we, as a school, are not pathologists; this is not true in any sense, but still we cannot know too much about this valuable subject.

Roentgen Rays.

By W. H. King, M.D., New York City.

The world has become so accustomed to the wondrous workings of electricity, and to the great advancement in every field of science, that it is disappointed if the newspaper does not daily bring news of some new innovation in the advancement of scientific laws, or the application of those laws to some wonderful invention. It is, therefore, somewhat surprising that Prof. Roentgen's discovery should have excited such great interest in every quarter of the globe. The wonderfulness of the discovery, the newness of its field of operation as viewed by an inexhaustive imagination, stimulated by the enthusiasm of the different investigators who enthused the newspaper reporters of the wonders that would be revealed with the perfection of the discovery, all have had their effect on the popular mind.

Had this discovery been made five years earlier, only a few laboratories would have been equipped with an electrical outfit capable of producing the sufficiently high tension currents to repeat the experiments, but so great has been the interest recently in this field of investigation that not only every well-equiped laboratory, but thousands of individuals, possessed the apparatus necessary to repeat Prof. Roentgen's experiment, and no sooner had the news reached this country than thousands were at work verifying, by demonstrations, the truthfulness of his claims.

So many and complex are the phenomena, with some statements apparently contradictory to each other, that I have concluded to commence at the beginning and explain these various phenomena as best I can, according to our present knowledge, which enter into the production of the Roentgen's rays.

If a vibrating bell be placed within a glass globe, from which the air has not been exhausted, the sound is conducted from the bell to the ear of one standing within its range, since the air, which is the conductor of sound, conducts its vibrations to the wall of the vessel, this, in turn, transmits the vibrations to the external air, and so on into space. If now the air be exhausted with an air-pump, and the globe hermetically sealed, we find that no sound is heard, as the conducting medium has been removed by the production of

a vacuum. If a platinum wire be placed within the vacuum and brought to a white heat, by the passage of an electric current through it, and a thermometer be so arranged that the rays of heat are focused upon it, we find, by the rise of the column of mercury, that the vacuum space conducts heat. The fact that an incandescent fibre within a vacuum bulb gives out a brilliant glow is sufficient proof that the vacuum space also conducts light. It is evident, therefore, that while air conducts sound vibrations it does not conduct light or heat.

We need not use an acquired vacuum to illustrate that the conductivity of heat or light does not depend upon air as a conducting medium, for they both travel through the space of millions of miles from the sun to the earth which is not filled with air, or, so far as we know, any matter whatever. This conducting medium of light and heat is what we know as ether—sometimes called luminiferous ether, because it transmits vibrations of light; it is also known as universal ether, as it is supposed to exist everywhere, even between the atoms and molecules of solids.

If an incandescent lamp, which, as is well known, has a vacuum, is brought near the prime conductor of a static machine, the fibre within the lamp will be deflected; or, if a lamp which has a continuous current passing through its filament be brought near a magnet, the fibre will again be deflected. The ether, therefore, conducts the influence of electricity and magnetism as well as light and heat.

Here again we have a greater example in nature, for if we watch the daily variations of the magnetic needle for a period of ten and one-half years, we find that these changes are coincident with changes of the spots upon the sun, showing that there is direct transmission of magnetic influence from the sun to the earth.

We find that a vacuum does not only conduct electrical impressions, but the passage of currents of certain great intensities (the nature of which will be given later) through a vacuum-bulb produces certain radiations of energy, heat, and light. These radiations are known as the anodal and cathodal rays. In order to explain these terms more fully, it is necessary to go back somewhat into the history of electricity.

It was discovered by Otto Von Guerick in about 1660 that there exists two electrical conditions, that bodies similarly charged repel one another, while those dissimilarly charged attract one another; thus the two-fluid theory of electricity was originated. Benjamin

Franklin in 1747 instituted the one-fluid theory. He maintained that all substances contained a certain amount of electricity when in a normal or non-electric state, and when they become electrified they either have more or less of the normal amount. For instance, when a glass bulb is charged by rubbing it with silk, the ball receives a superabundance of charge, while the silk has less of electricity than it should have. He, therefore, substituted the terms positive and negative for these two electric states; the one having the superabundance, being the positive, is designated by the plus sign, while that having the diminished amount is negative, and is designated by the minus sign.

Franklin, however, was dealing only with static charges of electricity which would remain at rest upon insulated bodies. After his day, through the discovery of Galvani and the untiring researches of Volta, dynamic or current electricity was discovered. This form of electricity developed many new lines of research, and in the days of Michael Faraday, when the laws of induction and electrolysis became known, the terms positive and negative were not so appropriate in designating the different states of the terminals of an electric battery as they were with static charges. He, therefore, with the aid of two friends, instituted the terms anode, or point of entrance, and cathode, or point of exit, and, as the current is supposed to be passing from the positive to the negative, the anode and positive pole are one, likewise the cathode and negative.

If I hold two electrodes in my hands, the one connected with the positive pole or anode in the right, and the one with the negative or cathode in the left, the current enters at my right hand, traverses the body and leaves it at the left. We find that each pole has an action distinctly its own, for it is found that the chemical, physical and physiological action of each differs. Now, when the two poles, which are known as electrodes, are placed inside a vacuum tube, which is known as a Crookes tube in honor of Sir William Crookes, of England, whose researches since the year 1868 have done much to develop the wonderful effects produced by the passage of an electric current through a vacuum, we find two sets of rays are produced: one emanating from an anode, the other from the cathode —known respectively, as has been stated, as the anodal and cathodal rays. I wish to impress upon you that these rays are not coincident with the current from the battery, for that goes, if we accept the dynamic theory of electricity, in a line directly from the positive to the negative electrode; but they are rays emanating from

the electrodes produced by the passage of the current, and differ in many respects as does the action of the two poles of a battery. First, we find that their fluorescence differs in color—the anodal being of a bluish-purple, while the cathodal is a bright greenish-yellow, both differing slightly in shade according to the height of the vacuum.

If we begin with a current intensity too small to produce any visible effect upon the vacuum, and gradually increase the intensity, we find the first set of rays emanating from the anode filling the tube with a bluish-purple color. As the intensity is still further increased the greenish-yellow rays are seen to emanate from the cathode, and just as the intensity of the current is increased, the cathodal rays predominate over the anodal until the latter are confined to a small space around the anodal electrode, while the cathodal fill the whole tube with a bright greenish-yellow fluorescence, and seem to fairly boil on the surface of the bulb opposite the cathodal electrode. The predominance of the cathodal rays over the anodal is also in direct proportion to the height of the vacuum. In a very low vacuum the anodal rays are perceptible with the greatest current intensities, while, with an exceedingly high vacuum, the anodal rays are scarcely perceptible, even with the least intensity of current. If we place within the vacuum-tube a light vane, delicately adjusted so that the cathode rays strike the paddles, the very rapid movement of the vane indicates that there are radiations emanating from the cathode and passing with tremendous velocity in a straight line through the tube, no matter from what point the anode may enter it. In their experiments in the Physiological Institute of Berlin they seem to think that the placing of the anode does have an effect on the efficiency of the tube in producing X-rays, if not on the radiant energy within it; they have, therefore, constructed a tube in which the rays of the anode do not intersect the cathode rays. This tube, which is quite universally used by the scientists of Germany, was devised by Dr. Walter Y. Cowl, an American, and, I am proud to say, a member of this Institute, but at present a professor in the Physiological Institute of Berlin. Nearly all agree that the fluorescence depends upon this radiating force, but just how it produces it is not so easy to comprehend. It is not known with certainty what all this radiant matter is, but it is generally conceded that it is composed of particles of matter of the residuum of the vacuum and from the electrodes, for when a vacuum is produced to the enormous pressure of one-millionth there still remains within it thousands, yes, millions of molecules. This radiant matter

within the tube was carefully studied by Sir William Crookes, who, in a lecture before the British Association, August 22, 1879, claimed to have discovered a fourth state of matter, thus dividing all matter into solids, liquids, gases and "radiant matter." He claimed that this fourth state, or radiant matter, was observable only in very high vacuua. The passage of an electric current through this vacuum-tube in producing the cathodal rays destroys this residual matter until the vacuum becomes so high that it is impossible to obtain any fluorescence, even with the greatest current intensity.

Just what becomes of these residual molecules is not known. Many believe they are absorbed by the electrodes. Mr. Edison seems to be the acknowledged champion of this theory. Mr. Tesla, however, believes that they are actually forced through the glass by the tremendous energy within. Whatever the cause, the heightening of the vacuum seems to be coincident with a long-continuous heating of the tube. If a new tube be put under great stress by the passage of a current of enormous intensity, and kept there steadily for any lengthened period of time, it will get very hot, the vacuum will run up rapidly, and, if the tube is a small one, the vacuum will be so high that the tube will be useless in an hour's time. If, however, the tube is allowed to cool off every few minutes, or if a stream of cool air be constantly thrown against it, this is avoided, and the tube will last almost indefinitely. On the other hand, when a vacuum becomes so high that the tube is useless, the application of a flame from a Bunsen burner or a spirit lamp to the outside of the tube will apparently reduce the vacuum, and it will again be in working condition. This has given rise to the opinion that the tube must have a certain degree of heat to produce the X-rays.

I wish to state that this heightening of a vacuum by the passage of an electric current through it, which has been discovered by many recent experimenters, was known to Mr. Tesla long before Prof. Roentgen's discovery.

The height of the vacuum is all important to the usefulness of the tube. If the vacuum is too low, no X-rays are given off. As it rises, it reaches a point of greatest efficiency, and, as it progresses beyond this point, its efficiency gradually lessens.

As particles of matter within the tube are projected with great force against the opposite wall of the bulb, a tremendous friction and more or less rebounding take place. Again those particles charged with electricity in turn communicate a charge to the walls of the bulb. As bodies similarly charged have a repelling effect

upon one another, those particles that have already been deposited exert a repelling influence upon those coming toward them, thus setting up an electric stress. All these conditions undoubtedly exert more or less influence in producing the fluorescence. We find that this fluorescent stream of energy is subject to magnetic influence and that the power of the magnet on them, or that their power to withstand the influence of the magnet, is in direct proportion to the height of the vacuum; for if Crookes's tube has a projecting bulb containing Potash, which, when heated, has the effect of slightly injuring the vacuum, the rays will produce a sharper curve under the influence of the magnet, falling short of where they did before the heat was applied to the projectile containing the Potash.

Leaving the considerations of the cathodal rays for a few moments, I will now ask you to follow me in the study of the form of manifestation of electric energy necessary to produce this phenomenon. And just here let me remind you that all electricity is the same, no matter whether it be a bolt of lightning or produced by a static or galvanic battery or a dynamo. The only difference is in its form of manifestation. We find that it does not require a large quantity of electricity to produce cathodal rays, but that it requires a very great intensity or force. It is not the size of the stream, but the force or velocity, the rate of current flow, or what is known technically as the intensity, or, more properly, potential of the current which produced it. The form of electricity employed to produce the rays is the discharge from a Ruhmkorff coil or from the Leyden jars of a static battery. Mr. Tesla has employed the discharges from a disruptive dynamo, which differs in no essential from the other forms, except in its greater potentiality. Now, as a matter of fact, all of these give off alternating charges, or a to-and-fro current, each pole being first positive and then negative, and so on, each electrode within the vacuum tube giving off an equal amount of anodal and cathodal energy. This fact has been a stumbling-block to many who have undertaken the study of this subject without a knowledge of the form of electric energy they were dealing with. In order to explain that while both electrodes inside the tube give off equal amounts of anodal and cathodal, or positive and negative, charges, and yet we obtain the action of only one for each electrode, giving apparently one direction to the current, it will be necessary to go back a step and explain something of the construction of the machines and the nature of the charges we employ.

In attempting to describe the Ruhmkorff induction apparatus in

a popular way, I am aware of the enormity of the undertaking and the chances I run of tiring you with matter not fully comprehensive; but, being somewhat accustomed to teaching this subject, I feel confident I shall succeed in making it intelligently understood, if you will give me your careful attention.

If two wires are placed parallel to each other, and in very close proximity, but not allowed to come in contact, and the two ends of one of them be connected with the sensitive galvanometer, and the two ends of the other be connected with the two poles of the battery cell, it will be noticed that just when the connection is made with the cell the galvanometer needle, with which the other is connected, will be deflected, showing that an electric current is passing through that wire. This power of an electric current passing through one conductor to produce a current in another conductor, in close proximity but not in contact with the first conductor, is known as induction. We find, however, that the current in the second wire was only momentary, when the connection with the first wire was made with the battery cell, and, no matter how long the current may continue to flow in the first wire, there is no evidence of any in the second. If, however, we suddenly break the connection of the first wire with the battery cell, there is another current set up in the second wire, running in the opposite direction to the one produced when the connection was made. We therefore learn that currents are only induced in the second wire on the closing of the circuit in the first and at the breaking of the circuit. In other words, the current in the second is entirely dependent on the opening and closing in the first. We further learn that the current in the second wire runs in opposite directions with the make and break of the current of the first wire. Now, the induction machine known as the Ruhmkorff coil is built upon this principle. The object to be sought is to get long distances of wire, miles of it, in parallel, and so arranged that the lines of magnetic force are focused or concentrated. This, of course, could not be done in space. We therefore wind them in coils, being careful that the wire is insulated—that is, covered with some material that will not allow electricity to flow through it—so that one turn does not come in contact with the other. Of course, there are necessarily two coils; the smaller one, which is inside the larger, and through which the interrupted current from the battery cell passes, is made of coarse wire and corresponds to the first wire, and is known as the primary coil. The second, which is much larger and wound of fine wire, corresponds

to the second wire and is known as the secondary coil. It is from this coil we take the induced current. The greater number of winds of this coil, the longer the wire and the greater the intensity of the current given off. The largest Ruhmkorff coil ever made is known as the Spottswood's giant induction coil, in which the secondary coil contains 280 miles of wire in 340,000 turns, and is capable of yielding a spark 42½ inches in length. In a battery of this kind the interruption of the current in the primary coil—that is, the make and break of it—is done automatically with an arrangement of a spring and magnet, or with a rotary interrupter run by storage cells, and which makes 60 interruptions per second, with, of course, 120 alternating discharges per second from the secondary coil. Now, if we examine the two discharges running in opposite directions, we find that, while they are equal in amount of energy, they differ greatly in their intensity or potential. The reason of this is that the current produced in the secondary coil by the break of the primary current is much more sudden than that produced by the make current, which rises to its maximum slowly, when compared to the break, and, of course, is given off from the secondary coil with proportionately less intensity. In other words, the same amount of energy is discharged through the tube by the break in only a fraction of the time required by the make current. It must, therefore, have, just in proportion, a greater intensity. Now, if we were to perform electrolysis with this to-and-fro current, that is, to break compounded substances up into their various consistencies by the passage of an electric current, barring the external resistance, we would have an equal effect from both currents, for there we utilize the quantity of energy; but with a Crookes tube we only get effects from the intensity. Therefore, the greater intensity of the break current predominates entirely over that of the make, and, as the alternations are so rapid, reaching thousands per minute, its effect becomes practically continuous, giving us a polarity just the same as if we were using a continuous current flowing in one direction. Of course, there must be a certain quantity of electric energy present, as well as a great potential. The quantity here used is so small that it has to be estimated rather than accurately measured; but I do not believe it can be more than one-millionth of an ampere.

The same principle is involved in the use of a static machine, for here we do not take the direct current as it comes from the machine, but take the induced current as it comes from the outside of the

Leyden jar. If a glass sphere which has been rubbed with a piece of silk, and has thereby acquired a positive charge of electricity, is brought near, but not in contact with, a brass sphere which is mounted on a glass support so as to insulate it, it will be found that the brass sphere at once becomes charged. If we examine this charge we find that the side nearest the positively charged glass ball contains a negative charge, and that the opposite side contains a positive charge. These two charges are equal, with a neutral point in the middle. If we now touch this ball with the finger, provided the operator is not insulated from the earth, the positive charge on the further side of the ball will at once pass to the earth and become neutralized; not so, however, with the negative charge, for the affinity it has for the positive charge on the glass ball is stronger than it has for the earth. On account of this great affinity, it has been called the bound charge, and the charge which passes readily off to the earth is known as the unbound charge. The same effect is produced in the Leyden jar. From the positive pole, or anode, there is conducted to the inside of the Leyden jar a positive or anodal charge. Now, there is induced on the outside of the Leyden jar two charges, as there was in the brass sphere; the negative charge, being bound, is held to the jar, while the positive, which is unbound, passes off. Exactly the opposite is taking place at the negative pole. While the jars are filling, the unbound charge is passing through the tube connected with the jars with but feeble intensity, the Leyden jars become filled until they can contain no more, when suddenly a spark passes between the two poles of the machine, this spark suddenly empties the Leyden jars, the bound charges on the outside of the jars are as suddenly released and rush through the tube with enormous intensity, and in just the opposite direction to the unbound charge. While these two are equal in amount of energy, the intensity of the bound charge is so much greater than the other that it predominates just the same as with the Ruhmkorff coil. When the plates of the machine are made to revolve rapidly, the force of the current is so great that the Leyden jars are filled and emptied thousands of times per minute, thus giving us a continous effect. I do not wish to be understood that a continuous current will not produce the cathodal rays—the only thing required is an enormous intensity, and, taking the estimated voltage of the intensity used to produce this effect, by a little mathematical calculation, I find that it will require from 5000 to 10,000 storage battery cells to produce the required intensity in using a direct current, and

the great expense of such a plant prohibits its use. This brings us directly to the subject under consideration, the Roentgen or so-called X-rays.

Professor Roentgen himself has called them the X-rays. He does not give his reasons for so doing, but undoubtedly the fact that they were an unknown quantity had its influence. Posterity will, judging from analogy, give them two names—one which is explanatory of the nature of them, when that is found out, and will be used by scientists, while the popular designation will be Roentgen rays. This is true of the current popularly known as the faradic (after Faraday), scientifically known as the induced; galvanic (after Galvani), scientifically known as the direct, and many more similar instances could be cited. The scientists of Germany call them the invisible cathode rays, thus distinguishing them from the visible fluorescence within the tube. Professor Roentgen was experimenting with a Crookes tube that was covered with a somewhat closely-fitted mantle of black cardboard which was opaque to the sunlight, when, to his surprise, a screen, which had been covered with crystals of barium platino-cyanide, was brilliantly lighted up. Surprised at this, he next proceeded to find to what extent other substances were transparent to these rays, when he found that all substances were traversed by them, but varying in degree. Paper was very transparent, for the screen was lighted up when placed behind a book containing 1000 pages, and when the hand was brought between the tube and the screen, he saw, to his astonishment, that the bones of the fingers were distinctly seen within the dim outline of the flesh. While these rays are capable of penetrating opaque material, and producing a beautiful fluorescence on certain substances, they are themselves invisible to the eye.

Now, the first question arising is, what are these rays? Are they the cathodal rays extended through the walls of the tube into space? Professor Hertz, of Bonn University, Germany, succeeded in penetrating with the cathode rays gold leaf placed inside the tube, and which was sufficiently thick to be opaque to sunlight.

His student, Mr. Lenard, later succeeded in passing them through a thin plate of aluminum, which was placed as a window in the bulb, out into open space, where they produced a fluorescence. These were positively cathodal rays, as they were deflected by a magnet and exhibited all the characteristics of cathodal rays. This fact has given rise to the report which has been freely circulated that Roentgen was not the discoverer of the Roentgen rays.

This is very unjust, for the Roentgen rays are not the cathode rays. It was thought Professor J. J. Thomson, of England, had definitely settled this question when he placed a photographic plate inside the Crookes tube and found that the cathode rays did not have an actinic effect upon it. Mr. Osterberg, of New York city, in a lecture at Columbia College, very ingeniously called attention to the fact that sensitized photographic plates do not respond to light of any kind, unless surrounded by moisture. They require very little moisture to be sure, but more than is contained in a highly exhausted tube. There are other proofs, however, as pointed out by Professor Roentgen himself, that the Roentgen and cathode rays are not the same. The former are not deflected by a magnet, as are the cathode rays, which are also absorbed by a light to a much greater extent than are the Roentgen rays. Regarding this point of Professor Roentgen's, the reflection and refraction of these rays, there has been some dispute among scientists, but the most conclusive proof has been furnished by the experiments of Professor Pupin, of Columbia College, of the accuracy of the statement. When the sunlight is passed through the spectrum, we find it is divided into several shades, one of these, known as the ultra-violet, are the rays which produce actinic effect upon a photographic plate. It has been suggested that, as the Roentgen rays produced this same actinic effect, they are identical with ultra-violet rays, which are also invisible to the naked eye, and that the energy emanating from the tube assists them in penetrating opaque substances. If this were true, the photographic plates would respond the same to one as the other. This, however, is not the case. Professor Stein, of Chicago, found that the slow plate responded just as quickly to the Roentgen rays as a very rapid one, and Mr. Edison has recently discovered that a landscape plate, which requires comparatively long exposure to the sunlight, responds to the Roentgen rays much more quickly than does the instantaneous plates, which require only a fraction of the time of exposure to sunlight. Professor Cowl, of Berlin, has made the observation that two plates, one of which is one hundred times quicker to ultra-violet rays than the other, act with about equal quickness to the X-rays. And he claims that the fine granules of the bromide of silver are more sensitive to the X-rays than are the coarse ones, which is just the opposite of the ultra-violet rays. Makers of photographic plates are already at work in producing a special plate for the Roentgen rays, and have made some improvements. They will undoubtedly make more. These are not ultra-

violet rays; we, therefore, are forced to the conclusion that these rays are entirely new, having been unknown until Professor Roentgen's discovery.

The next question arising is, what is the nature of these rays? Professor Roentgen states, with much reserve, that they are longitudinal vibrations of the ether, which are vibrations moving longitudinally to the lines of propagation, thus differing from the transverse vibrations of light and heat which move perpendicularly to the line of propagation. If it is true that these are longitudinal vibrations of the ether, it gives us a new conception of the ether itself, for we have generally considered it as non-compressible, capable only of transmitting transverse vibrations. If, however, it is found that it transmits longitudinal vibrations, it must be slightly compressible. Others advance the theory that they are lines of magnetic force, while Mr. Tesla believes that they are actual particles of matter forced through opaque substances, and that their actinic action upon the plate is mechanical, and states that there are certain chemicals which are very sensitive to such mechanical impressions, and suggests that they be utilized to demonstrate the truthfulness of his theory; but, so far as I know, the experiments have not proved successful.

It has long been known that lightning and large sparks of electric discharges were capable of producing effect upon sensitized photographic plates through certain opaque substances. We now know that this effect is electrolytic. Now, if Mr. Tesla's theory be correct, these particles of matter would naturally contain a certain amount of electrical charge, and would it not be more reasonable to explain their actinic effect on the electrolytic theory, than it would on actual mechanical impulses. The fact that they are capable of conducting electricity is proved by their ability to discharge an electrolyzed plate, as shown by Roentgen's second article on the subject. Various experiments have recently been made to obtain the Roentgen rays other than by the Crookes tube. It is claimed by some that they emanate from an arc light, or from the disruptive discharges from the poles of a static machine, or from bolts of lightning, as has been cited. In carefully comparing the results obtained by the arc light, which is one, it has been claimed, producing the Roentgen rays, we find, in the first place, that it is very much weaker in its power of penetration, and that the laws of penetrability are not the same. For example, while color has no effect, so far as we know, on the Roentgen rays, it has on the arc-

light rays, for two pieces of celluloid of the same thickness and density, one white, the other red, conduct the arc-light rays differently. I am sure I am speaking the opinion of ninety-nine out of a hundred scientists who have experimented on this subject, in saying that the Roentgen rays have been produced only by radiation from an excited Crookes tube.

One of the most interesting points in this connection is the laws governing their penetrability. It was at first thought that the opacity depended upon the density of the material. This was soon disproved, for substances of similar density varied greatly in opacity. Bone, which was at first thought to be very opaque, is found to be more transparent than lead, for lead bullets within bone are easily detected by their greater opacity. Platinum is the most and aluminum the least opaque of the metals. The opacity of glass seems to depend largely upon the amount of lead it contains. The abdominal and thoracic viscera, as well as the brain, the kidneys excepted, which seem to be somewhat opaque, are quite transparent. We will, therefore, not be able to photograph the brain. Certainly the transparency of all material depends upon the length of exposure as well as upon the force and quality of the rays. I understand there has been a law evolved governing the conductivity of all bodies to the Roentgen rays, that is, that "the penetrability varies inversely as the product of the atomic weights by the specific gravity."

Heat and light vibrations are the same, only differing in the amplitude of their vibrations. Now, certain substances will conduct heat vibrations and not light, while others will conduct light and not heat. Professor Tyndall, in a lecture delivered in the Senate House before the University of Cambridge, May 16, 1865, described a series of experiments he had instituted to study the conductivity of vapors of various substances to heat and light vibrations. By placing these in a vacuum and allowing the vibrations to pass through them and to concentrate upon one side of a thermo-electric pile, the variation of the galvanometer needle, which was connected with the pile, told the amount of heat that passed through the various vapors. He was thus able to make certain observations, and he found that when a substance transmitted a vibration, the amplitude of its molecular vibrations had to correspond to the amplitude of the ether vibration; therefore those substances which conducted heat vibration had a molecular amplitude corresponding to the amplitude of the heat vibrations. We know that the soft parts of

the human body have a molecular vibration. In fact, it is claimed by many that osmosis is due simply to molecular vibration. In fact, in one of the most recent articles on the subject of osmosis the author claims that the lining, or plastic material inside the cell wall, which is simply the matured protoplasm of the cell, has a certain amount of elastic vibration, and this vibration gives it the power to conduct substances which have similar vibrations, and that the selective power of different membranes in osmosis depends entirely upon this action.

Now, applying this same law of equality of molecular and ether vibrating amplitude to the penetrability of the X-rays of the human body, we naturally conclude that the reason why the body conducts these rays is that its molecular vibrations are equal or similar, at least in amplitude, to the vibrations of the X-rays.

If Roentgen's contention that these rays are longitudinal vibrations is true, perhaps it is explained on the ground that the molecular vibrations of the body and other substances traversed by them are longitudinal.

Not one of the least important questions is, Where do these rays emanate from? Professor Roentgen has stated that they emanate from that part of the tube which fluoresces most, which in reality is the point opposite the cathode electrode and where the radiant energy of the cathode rays come most directly in contact with the wall of the bulb. Professor Magie, of Princeton College, with a piece of lead, which is very opaque to the rays, with a small opening through it, was able to examine by means of a skiascope or fluoroscope the surface of the entire tube; he came to the conclusion that they were much greater where the glass wall of the tube was thinnest, and, therefore, concluded, in support of Professor Roentgen's theory, that they came from the inside of the tube. The theory has been advanced that they emanate from the cathode electrode, piercing the glass and going on through space; but this is easily disproved by the fact that, when the cathode rays are deflected within the tube, the Roentgen rays emanate from the deflected point. Now, the Roentgen rays are not deflected by the magnet. and if they emanated from the electrode they would not be deflected, but would pass out from the point directly opposite. Another theory is that, as with the vibrating bell within the non-exhausted glass bulb, which conveys vibrations to the glass, which in turn conveys the vibrations to the air outside and is thus conducted to the ear of the hearer, so the impaction of the cathodal radiant energy upon the glass pro-

duces vibrations which in turn causes vibrations of the ether outside of the tube, and thus produces the Roentgen rays or vibrations. The thinner the glass the greater would be its vibrations. Therefore, while we can come to no definite conclusions where the Roentgen rays emanate from, either inside or outside the tube, we know that they start from that point of the tube, either inside or out, where the radiant energy of the cathode fluoresces mostly, and they are greater and stronger in proportion to the thinness of the glass. We also know that they are directly in proportion to the radiant energy within the tube. In fact, the best results are obtained when this radiant energy is so great that it seems to boil at its point of focus, or, as Professor Stein has put it, that it seems as if the glass at that point was liquid glass. It is also greatest when the electrodes are within the tube. We have seen in Professor Roentgen's original experiment that these X-rays when allowed to come in contact with the barium platino-cyanide screen, lighted it up, thus producing visible light rays. Mr. Edison has substituted, and with a great deal of benefit, the tungstate of calcium for the barium platino-cyanide, which he claims gives off about eight times as much fluorescence. This tungstate-of-calcium screen has been utilized in two ways: first, to aid photography, and second to form a fluoroscope, of which more will be given in a few moments. That these visible light rays produced by concentrating the X-rays on a tungstate-of-calcium screen contain chemical rays capable of producing actinic action on a photographic plate is proved by the fact that if a sensitized plate is exposed to them for only a second in a perfectly darkened room, it is blackened wherever the rays are allowed to come in contact with it. Now, if this screen is placed next to a photographic plate, as soon as the X rays strike it, light rays are produced which act upon the plate much quicker than the X-rays do, thus greatly shortening the time of exposure. However, a picture so taken, according to my experience, does not have the distinctiveness of outline it does when no screen is used. This is easily accounted for when we remember that these are shadow pictures and the light of the screen is produced between the plates and the object to be sciographed. As there has been some feeling regarding the credit for first making this improvement, I hesitate to state who was the first to utilize it; but certainly great credit is due to Professor Pupin, of Columbia College, and, whether he was the first or not, no one can doubt his originality.

The pictures taken by Roentgen rays are, as you know, not taken

by the ordinary process of photograph, but they are simply shadow pictures and have been variously named shadowgraphs, sciographs, etc. The plate is placed in an ordinary plate holder with the protecting cover remaining on; the Crookes tube is placed from three to several inches away and focused so that the radiant energy is directly toward the plate. The further the distance the greater the time of the exposure required and the less distinct the picture is liable to be. Professor Cowl, in a paper recently read before the Physiological Society of Berlin, and which was based on experiments made at the Physiological Institute, claimed: "In order to obtain sharp outlines of pictures, that the surface on or in the Crookes tube from which the X-rays radiated must, with reference to the object to be sciographed, be as small as possible, otherwise we get the same foggy outlines as in sun shadows on a screen when holding an object before it at a sufficient distance for the breath of the sun's surface to come into play;" and also that we should not take pictures with the vacuum tube nearer the object than the eye in distinct vision, otherwise we get a view similar to that when a strong pair of spectacles are used. According to my experience, these two rules must go together, for if we use a small surface for the X-rays to radiate from, and then place the tube near the object to be sciographed, we get a double shadow of all the outer lines. The subject to be photographed is brought between the Crookes tube and the plate, but close to the plate—in fact, it should lie against the plate cover. The flesh, which is quite transparent, or perhaps translucent would be a better term, leaves a dim outline on the plate, while the less translucent bone leaves a deeper shadow within when the hand is photographed.

I wish now to call your attention a little more fully to the scioscope or fluoroscope. This instrument has been very opportune in prolonging the romantic part of Professor Roentgen's discovery. At first the world had visions of photographing brains, livers and the souls of men. This idea was beginning to fade when the new instrument was discovered by which we could look through a pocket book and also through great blocks of wood. At once visions arose of great things. If one was not going to be able to photograph the wheels in his neighbor's head, he could at least look through the brick walls into his neighbor's house and see what mischief he was up to. This instrument has also been a source of contention regarding the credit of its origin. Of course the use of the screen belongs to Roentgen and the improvement of it by substituting the

tungstate of calcium for the barium platino-cyanide is Edison's; but the construction of the fluoroscope and the uses to which it is now put, I believe belong independently to Professor Magie, of Princeton College and Professor Salvioni, of Perugia, Italy. Neither can claim priority, but both may claim originality. The instrument consists of a tube or box of any material which will shut out the light, across one end of which is pasted the tungstate of calcium screen. The fluorescent side of the screen is placed inward or toward the other end of the tube. Over this screen is placed a piece of what is known to photographers as non-actinic paper. This is prepared paper which does not admit ultra-violet rays, but is very transparent to Roentgen rays, and thus protects the screen from sun or lamp-light; thin plates of aluminum have also been used for this purpose. Now, if the eye of the observer is pressed closely to the open end of the tube so as to prevent the light from entering, unless it be in a perfectly dark room, when this is unnecessary, and an excited Crookes tube be held so that the Roentgen rays stream toward the closed end, they penetrate the non-actinic paper and produce a fluorescence on the screen which is plainly visible to the eye. If, now, a block of wood be brought between the bulb and the fluoroscope the rays penetrate it and produce the fluorescent effect upon the screen. If the hand is substituted for the block of wood, the rays penetrate the flesh, leaving a distinct outline of the bones. Statements are numerous that various organs of the abdominal thoracic viscera have been seen; this, however, is very doubtful, for I have never seen an authentic statement of the fact.

Now, ladies and gentlemen, as the lights are turned down, I will show you the workings of the fluoroscope.

Electricity in Medicine and a Plea for its More General Use.

By J. C. Daily, M.D., Fort Smith, Ark.

A paper read before a medical society on electro-therapeutics receives about the same consideration that would be given an essay on free silver by a convention of Wall Street bankers. The author is called a crank, and the subject is dismissed (at least by many) as a vagary unworthy of serious consideration. As a result, few papers are read before the American Institute on this subject, and its devotees have been forced, in self-defence, to organize an electro-therapeutic society where their papers will reach willing ears and strike responsive cords. This attitude of agnosticism toward electricity was well taken twenty or thirty years ago, when its use was based on empiricism and its application left in the hands of charlatans and quacks; but to-day it has progressed, at least far enough on scientific ground, to demand a respectful hearing of medical men In recent years we have seen electricity in the industrial arts emerge from a similar state of empiricism, until it has revolutionized chemistry, physics, and the industrial arts and trades of the world; and when its laws in relation to the human body are as well understood, we will have a new system of electro-therapy that will revolutionize the practice of medicine.

The obstacles to the use of electricity in the past as well as the present are two-fold. First, a lack of knowledge of the exact pathological condition of the disease treated, and therefore an uncertainty as to the character of electricity to use and of the form of electric energy necessary to effect a cure; and second an erroneous idea too prevalent among physicians, as to what electricity really is. Electricity is too often regarded as merely electricity, without any discriminating attention directed to the very marked distinctions between the effects it is capable of exerting. It is not a simple single remedy acting the same way under all conditions, but is a veritable Pandora box, out of which spring many different forms of energy, some of which are recognized with scientific exactness, while others are as yet unknown. Our knowledge is fairly well developed as regards, for instance, its electrolytic or chemical action, its excitatory

action upon the protoplasmic elements of nerve tissue, its circulatory and vaso-motor effects, cataphoresis, etc., while in regard to others we are still densely ignorant and have to fall back on past experil ence with but indifferent results; but day by day our knowledge increases, and day by day the electro-therapeutist applies his current with clearer ideas as to the effect desired and more accurate knowledge of the force he uses, and if we continue to grow in the future as we have in the recent past, we will soon use electricity with the same definite precision with which the surgeon handles his knife.

The opposition to electricity as a remedial agent comes principally from three sources: First, from the man of blood—the surgeon, who is so enamored with his marvellous success with the knife that he has not the time, or will not take it, to study any other method, and therefore condemns electricity without a trial. Nearly al the recent works on gynæcology refuse to recognize it as as an agent of merit. Witness, as an example, the *American Text-Book of Gynæcology*, article on electrical treatment of endometritis; it condemns it without measure; it is very plain that its author has had no practical experience with the method he refuses consideration. Playfair, an authority of equal weight, has been broad enough to prove all things and hold fast to that which is good. He says: "In the treatment of certain morbid conditions of the endometrium, especially chronic endometritis, uterine catarrh and membranous dysmenorrhœa, I have found that the application of the negative current through the insulated intra-uterine sound produces far more uniformly good results than any other form of intra-uterine medication with which I am acquainted. I am satisfied that there is nothing to be compared with this in very troublesome cases, many of which have lasted for years and resisted every other kind of treatment previously used."

But even to the surgeon it may prove helpful at times. Phlegmonous inflammations of deep structures, beyond the reach of the knife, are due to anaërobic microbes. These microbes are destroyed and rendered harmless by the presence of oxygen. D'Arsonval has experimentally established the fact that a sinusoidal current of low frequency of alternation increases the consumption of oxygen 50 per cent. May it not be possible by this method to introduce sufficient oxygen to the tissues to destroy these anaërobic microbes, and thereby cut short the inflammation?

The second class of objectors are those who have attempted its use with defective apparatus and equally defective knowledge. It

is they who attempt the dilatation of the cervix with faradism, and cure stricture with the positive pole. They naturally meet with failure, and blame the remedy instead of themselves.

The third class is that large body of general practitioners who never use it until they have exhausted every other means, mechanical, surgical and medicinal; and then they invoke its aid, and are disappointed because it does not cure. My personal experience with this agent has been confined chiefly to its gynæcological and orificial use. At the Denver meeting I had the pleasure of reading to the Institute a paper on electricity in gynæcology, in which I attempted to point out some of the diseases of women amenable to cure by the method under consideration. Among others, I enumerated uterine hyperplasia, subinvolution, chronic ovarian inflammation, chronic pelvic inflammation with exudation, all forms of uterine hæmorrhage, certain forms of amenorrhœa, endometritis, prolapsus and version when due to relaxation of tissue, dysmenorrhœa, obscure pelvic pains, occlusion of the os and stenosis of the cervical canal—all forms of hystero-neurosis and disorders of menstruation.

Two more years of experience have further confirmed the opinion then expressed, that electricity, properly administered, in suitable cases, is the most valuable remedy at the command of the gynæcologist. Diseases of women offer a peculiarly favorable field for the use of this agent. The unipolar application, the lack of sensibility to current of the vagina and uterus, the low resistance of these parts, from 400 to 600 ohms, and the consequent high amperage that can be given without pain, thereby enabling us to get the chemical effects so necessary at times, coupled with the fact that the diagnosis is comparatively easy, accounts for the great strides it has made in this specialty.

Simple endometritis can be, and is, cured by electricity. Those who claim the contrary have either not tried it or else do not understand its application. Under its use the menstrual anomalies are regulated; the dysmenorrhœa is relieved and the leucorrhœa ceases. I do not mean to claim that it will cure all cases; but in the great majority, where there is a fungoid condition of the endometrium, it is better to first use the curette and follow it up with the galvanic current. I would not advise this agent for septic or gonorrhœal endometritis. These cases are best treated by curetting and packing. In treating endometritis I am guided in the selection of the active pole by the character and the disposition of the uterus.

Where the uterus is irritable, bleeds on the least handling, is tender and sensitive, with profuse menstruation, I use the positive pole. For its sedative and hæmostatic effect when it is sluggish and sleepy, standing any amount of handling and rough usage without reaction, the negative pole is indicated. For the negative pole I use a set of Pratt's sounds, with a hole bored in the end for conducting cord, and properly insulated within two and one-half to three inches of the end by rubber tubing. Before turning on the current, I dilate uterus as far as possible, and use as electrode the largest sound that will enter, the aim being to bring the electrode in contact with the whole endometrium and to leave a patulous cervix for the escape of débris resulting from electrolysis. Massey says that this is unnecessary, but I have had better results since using this method. For positive electrodes I use block tin. The application should be made two or three times a week, and with a milliamperage ranging from 10 to 100 milliamperes, as judgment dictates. For prolapsus uteri from relaxation of tissue, the action of electricity is sometimes marvellous. Two years ago I had a patient with complete prolapsus. The womb had been so long exposed to the air that its surface had become hard and rough like integument. The case looked as if it were beyond the reach of any treatment short of hysterectomy. She gave her consent to the operation, and all arrangements were made for the removal of the uterus. At the last moment her courage failed her, and she backed out, and begged me to try electricity, as I had at first suggested. Accordingly the womb was replaced and coarse-wire faradism applied, with slow interruptions, by means of a bipolar vaginal electrode, after which a tampon of Boroglyceride was introduced. Four months' treatment, on an average of three treatments a week, resulted in a perfect cure. I examined her recently, and found her uterus in normal position. Such a cure is worth a dozen successful hysterectomies, as she is comparatively a young woman capable of motherhood.

I had not intended in this article to report any cases, but the day before I left home, a lady called to thank me for what she was pleased to call her miraculous recovery, and the case is, I think, of sufficient interest to report to this body. Mrs. G., æt. 28, menstruated first at 13. When 15 she began to suffer with her periods. The suffering increased each month until she was 16, when she began to have convulsions with onset of menstruation. At that time a physician dilated and curetted uterus without relief. From the age of 16 until she came under my care, she has spent every

menstrual period in bed under the influence of Morphia, and at times when Morphia failed to relieve, under the A. C. E. mixture. Her husband had learned to use a hypodermic and to administer an anæsthetic, and always had to resort to one or the other. She married at 17. At 19 the uterus was dilated and curetted, and again at 22, without any apparent benefit. At 24 she entered Dr. Maury's private hospital at Memphis. He incised the cervix, curetted and introduced a glass stem, which she wore for weeks. She was worse after this treatment than before. Maury then advised the removal of the appendages, assuring her that nothing short of this would bring her relief. She has consulted many physicians, all of whom have advised Battey's operation. I quote from a letter of Dr. Green's, of Little Rock, written last November. He says: "Replying to your letter in regard to Mrs. G., I never made an examination of her case, although she and her husband frequently talked to me on the subject, and on two or three occasions made an arrangement to go to the hospital and place herself under my care, but she had been treated so much, ineffectually, and so dreaded the thought of a laparotomy which she had been told would have to be done, that she never quite made up her mind to submit to treatment. Never having made an examination, I am unable to state just the nature of her trouble. Judging from the severity of her dysmenorrhœal symptoms, I judge there is a large neurotic element in the disease and that the ovaries must be largely at fault. A laparotomy, by bringing about an artificial menopause, will stop the periodical attacks of pain, but will not remove the neurotic element. I hope you can cure her with electricity, but if it, like all other things that have been tried, fails, then a radical operation is in order. The only thing that kept her from submitting to the operation was the fact that she was childless and greatly desired a family." I began electrical treatment the 9th of last November. I found on examination, in spite of all the surgical work that had been done, that the uterus was small and undeveloped and the cervix so narrow, I could not introduce the smallest sound. The region of left tube and ovary so exquisitely tender she could not stand the slightest pressure. Bipolar faradism of vagina, current of tension was first used for several treatments, until sensitiveness to pressure was relieved, then negative intra-uterine galvanism, using larger sound each treatment until I reached No. 16 English. The ovary and tube were then treated by applying clay-ball electrode against these parts through the vagina and the indifferent pole on

back and abdomen. The first menstruation after treatment was attended by less pain, and the improvement has continued with each period until this month, when she menstruated absolutely without pain, the first time in fourteen years.

I have had a large experience with this agent in the treatment of chronic constipation, with many cures and but few failures. The method of application I reported at the last meeting of the Southern, at St. Louis.

Catarrh of the sigmoid is another disease in which the action of electricity is very beneficial. A large pad is placed over the colon externally and attached to the positive pole. A Coles sigmoid irrigator is introduced and the sigmoid is filled with a warm solution of salt water. Then the negative pole is attached to the irrigator and from 10 to 20 milliamperes passed for five minutes, winding up the application by a few interruptions, for the purpose of producing contractions of the gut.

Electricity, like Homœopathy, is here to stay. It has its own sphere in the practice of the healing art to fill, and can no more be ridiculed out of existence by those who have not given it an honest trial, than can the law of similia. It can and does relieve and cure disease, and will amply repay any physician for the time, trouble and expense necessary for the mastery of its principles.

Discussion.

C. T. Hood, M.D., Chicago, Ill.: I want to thank the doctor for this paper. I have had considerable experience with electricity, and I know that all the things he claims for it, it will do, and much more. The reason why so few papers are presented before this Society on electricity is because physicians, as a rule, do not understand it. They come here and listen to a paper like this, and go home and get out their old rusty batteries and attempt to use them without first mastering the principles of electricity, and fail to get results; then, when they hear the doctor read a paper reporting cases like these, they say, I don't believe it, because I have tried it and it don't work. The fact is, that the application of electricity requires just as much work as the materia medica. Let its practical application alone till you have thoroughly mastered it. If you do that, we will have more papers next year.

J. J. Thompson, M.D., Chicago, Ill.: It seems to me that this is too important a paper to let go by without a full discussion. When Dr. Daily was reporting that case which he cured, that had been prepared for laparotomy, I could not help thinking how many ovaries and uteri could have been saved in years gone by if electricity had

been used. If there is any operation which I like to perform better than another, it is removing the uterus; but if there is a way of curing without operating, I am willing to yield the knife. The more I study electricity and learn the application of it, the better I like it. I believe if the members of this convention would investigate this subject more, they would have less use for surgery. It may be foolish for me to talk this way, but I know that there will be enough left for the surgeons any way. We, as Homœopaths, must stop recommending the knife so much as we do.

ROBERT WALTER, M.D., Walter's Park, Pa.: I learn from what I have heard that some physicians apply electricity successfully, while some apply it unsuccessfully. I simply want to say in one sentence, When you apply it in accordance with Hahnemann's law, you will be successful, and in no other way. I have studied it for fifteen years, and think I know something about it.

J. A. WHITMAN, M.D., South Carolina: I have had some experience with electricity in the treatment of displacements of the uterus, and have had good results from its use. I first used medicines, and then pessaries, without relief; then I used electricity. My rule is, first, my Homœopathic remedy; then, if it does not do the work, I use electricity.

T. P. WILSON, M.D., Cleveland, O.: A good friend whispered in my ear: Has electricity ever been proven. or have we come to the conclusion that when everything else fails, you simply use electricity?

E. R. MCINTYER, M.D., Chicago, Ill.: The paper is one of much interest, especially to those who treat chronic diseases. I am glad so much discussion has been brought out. I don't believe myself that electricity is any part of our Homœopathic materia medica. I have had some experience with electricity and a good deal of experience with patients who have had electricity used upon them, and when I would mention it to them they would seem to dread it very much. This, I think, is due to the fact that many physicians who use it do not use it properly; some will apply the galvanic current when the Faradic should be used, and *vice versa*. It is a matter of great importance, in many cases, to know what current to use.

J. C. DAILY, M.D., Fort Smith, Ark.: I only wish to say a word. In reply to Dr. Foster, I will say that I did not give her one drop of medicine; she had a dose or two of Morphine, which her husband gave her, but I did not give her any medicine at all. I think I know something about the application of electricity, and I know that it will cure many times when everything else fails, and I would like those who have not used it to try it.

The Value of Tuberculin in Lobular Pneumonia.

By B. S. Arnulphy, M.D., Chicago, Ill.

Among the inflammatory affections of the respiratory organs, *lobular pneumonia*, also called *broncho-pneumonia*, occupies a peculiar position. The elusive and frequently misleading character of its symptoms, the variability of its clinical behavior, and the uncertainty of its treatment, invest it in the eyes of the conscientious practitioner with no small degree of interest.

The best proof of the inherent difficulty of the subject is the confusion shown in some of the recent text-books between lobular pneumonia and capillary bronchitis, a confusion against which I am bound to enter a protest, for capillary bronchitis is certainly entitled to an independent existence in nosology.

We conceive that in capillary bronchitis the inflammatory process invades the whole bronchial tree with great suddenness, almost simultaneously, and the disease evolves so rapidly that the inflammatory lesions of the pulmonary parenchyma have no time to develop. We find at post-mortem only the mechanical evidences of the onslaught, that is: atelectasis and emphysema. Therefore the great characteristic clinical feature of capillary bronchitis is to be hyperacute, suffocative, and of rapid evolution. In four or five days its course is spent, terminating either in death or in recovery.

Not so with broncho-pneumonia. Neither is capillary bronchitis always due, as it is generally claimed, to an extension of catarrhal inflammation from the larger bronchi. There have been observed peculiar epidemic forms (Nantes, 1840), where the capillary bronchi are primarily and exclusively affected. This is evidently an infectious disease, claimed to be contagious, and due, according to Mosny, to the presence of the streptococcus pyogenes.

Nevertheless it shows that the capillary bronchi have a pathology of their own, which is a fact that the clinician cannot afford to disregard. Nor is this all. There is another element of difficulty. I mean the striking similarity of symptoms between capillary bronchitis and some forms of acute tuberculosis.

It has fallen within my experience to observe quite a number of

instances of the latter affection, mostly in consultation, that is in cases where a correct diagnosis was wanted; and I have learned to place my main reliance upon the following indication: In capillary bronchitis there is a definite relation between the gravity of the symptoms and the physical signs, which in the species are mostly small, bubbling, moist râles, of the sub-crepitant variety; while in acute tuberculosis, in spite of the dyspnœa, the cough, the anxiety, the cyanosis, few if any râles are to be found. In some cases there prevails over the thoracic surface an ominous silence, hardly broken here and there by a few ill-defined, moist or dry râles, the percussion resonance remaining pretty much unimpaired.

This distinctive diagnostic point I consider of great importance, and one that is well worth remembering at the bedside, in those anxious cases, especially with a view to prognosis and treatment.

We all know how fatal are those forms of acute tuberculosis; still it has been my good fortune to rescue some such cases with Tuberculin 6x and 8x.

We have here to deal with one of those morbid dramas where the correct pathological diagnosis is absolutely necessary to successful therapeutic intervention. In both cases we have fever, dyspnœa, rapid breathing, great anxiety, more or less cyanosis, more or less cough, symptoms that we find in the pathogeneses of Phosphorus, Tartar emet. and Tuberculinum; but unless we go a step further and clinch the physical symptoms upon which hinges the discrimination between what is purely inflammatory and what is specific, no proper selection of the remedial agent can be made.

No mere "taking the case" will avail under such circumstances. It really amounts to this: *To know or not to know* what is the matter with the sufferer. In other words, so long as the pathological conditions underlying the manifold symptoms of disease are not accorded due prominence in the framing of our prescriptions, so long as the physical signs of disease are not given proper study and attention, the much vaunted "totality of the symptoms" must remain a misnomer.

But to return to lobular pneumonia. Here we have a clinical entity, whose physiognomy is somewhat deceptive, its symptomatic aspect varying appreciably according to the extent and the acuteness of the parenchymatous involvement. Among those morbid manifestations the only one endowed with some fixity *is the lesion itself.* This lesion is essentially of the catarrhal type. In vain do we look for the granular and fibrinous formations so characteristic

of the red hepatization of lobar pneumonia. The most searching scrutiny only discovers alveoli filled with serum, mucus, leucocytes, and desquamated epithelial cells that are more or less degenerated.

Now, do we possess in our materia medica a drug capable of producing a lesion similar to this? Undoubtedly; but it is neither Bryonia nor Phosphorus, whose manifest tendencies are toward hepatization proper, and, therefore, better adapted to the treatment of pneumonia; neither Tartar emetic, though the latter seems to come closer to the mark, and is therefore more useful in lobular pneumonia than either Bryonia or Phosphorus. There is one toxic agent, however, capable of setting up in the human lungs a lesion so exactly parallel to that of lobular pneumonia, that it will bear the test of microscopic investigation at the hands of the foremost pathologists of the day. I mean *Tuberculin*, Koch's once famous lymph. We have Virchow's word for it. Virchow had ample opportunity to make post-mortem examinations among the hecatomb of victims that succumbed to generous doses of the lymph, and he positively states that as far as he could discover, the acute lesions thus superinduced in the lung never overstepped the stage of catarrhal inflammation of the alveoli and the terminal bronchial tubes.

Can we, as Homœopaths, afford to neglect such a broad hint as that? Why is it that Tuberculin is not universally recognized in our ranks as the foremost remedy in broncho-pneumonia? Is the theory at fault? Does the clinical test fail to bear out the claims of the doctrine? Not in the least. Wherever the Homœopathic Tuberculin has been tried in well-authenticated cases of lobular pneumonia, surprisingly good results have been obtained.

I have gleaned the most encouraging reports from the French and Belgian medical journals, and also from private correspondence in this country and abroad. My personal experience in similar cases has been so convincing that I have learned to depend upon Tuberculin alone, regarding it as being far superior to any other single remedy that I ever tried before.

From a number of cases of lobular pneumonia that I have observed in my private practice and in consultation, all of which rapidly recovered under Tuberculin, I will only cite two cases:

CASE I.—The first case is that of a boy three years old, who had been suffering from a moderate attack of bronchitis for a week or so, when he grew suddenly worse. The temperature rose rapidly to 104°, and the respiration became hurried and labored. The attend-

ing physician became alarmed, and I was called in. I found the boy breathing at the rate of 80 respirations per minute; temperature 103⅘°; pulse 150, very weak. The face was pale, anxious and a cyanotic tinge was plainly visible around the lips and at the finger-nails.

Examination revealed over both lungs a few scattered, small, bubbling râles, interspersed with still fewer, dry, sibilant râles, with here and there a small zone, over which some faint bronchial breathing was perceptible. The percussion resonance was practically unchanged.

Here was a clear case of diffuse lobular pneumonia of a very serious character, with the signs of incipient asphyxia, the extremely rapid rate of the circulation and of the respiration threatening a prompt and fatal termination, considering that the child was of weak constitution and born of scrofulous parents.

The child was taking Tartar emetic—an excellent prescription indeed—but as he had been growing steadily worse for the last six hours in spite of it, I prescribed Tuberculin 12x, one ½-grain tablet every half-hour, much to the dismay of the family physician.

I must confess, however, the little sufferer rapidly improved, and twelve hours after the first dose of Tuberculin was out of danger. The temperature, the pulse and the dyspnœa had rapidly subsided, and a profuse perspiration had taken place. A few days later that child had completely recovered.

Case II.—The second case is that of an old gentleman, 78 years of age, who for twenty-five years had been suffering more or less with chronic bronchial catarrh. In January, 1896, he came down with "la grippe," and soon developed disquieting pulmonary symptoms. He had been complaining of chilly sensations, followed by a severe headache, but his main distress seemed to be a peculiar dryness of the mouth and throat, coupled with a difficulty of breathing.

When I first saw him he was very weak, the pulse quick, soft and shallow at 108; temperature 102⅘°; respiration 30. The skin was hot and dry, the urine very scanty. There was very little cough and slight mucous expectoration.

Examination revealed over both lungs irregularly distributed zones of faint tubular breathing, with a scattering of moist and dry râles, but feebly developed, and some slight sub-dulness here and there. The action of the heart was irregular, and extremely weak, the ventricular sound being hardly perceptible; whereas the second aortic sound, no doubt owing to atheromatous changes, gave a dry, metallic click.

I put him on Tuberculin 30x, 1 grain every hour, and the improvement was marked the next day. The patient slept a few hours during the night and perspired abundantly. This is the place to note that I have observed this kind of critical perspiration in almost all my cases when the termination proved favorable. Soon a loose cough developed, with muco-purulent expectoration; the breathing became easier, the pulse steadier and slower, and in a week's time the patient was well enough to leave his bed. A few doses of Sulphur completed the cure.

In these cases I make it a point to give Tuberculin alone, because I feel confident that it covers not only the typical lesion of lobulur pneumonia, but the majority of the symptoms as well.

A glance at the pathogenesis of Tuberculin, which I published in the February number of the *Clinic* (1896), is sufficient to carry conviction. It will be seen that the extreme rapidity of the respiration, so apparent in the pathogenesis, the oppression, the soft accelerated pulse, the temperature, the threatened paralysis of the heart, read like a counterpart of the aggravated case of lobular pneumonia.

As I have said elsewhere (*loco citato*), "Koch's lymph, or Tuberculin, is a definite product, endowed with manifest activities and undoubted toxic properties. That these crude pent-up energies are susceptible of being molecularly attenuated and dynamically exalted and turned into useful and safe channels of clinical application has been superabundantly proven." Moreover, Tuberculin is one of the few remedial agents in our possession whose pathological aspect of the pathogenesis rests upon a strictly scientific basis, imparting to its indications when truly Homœopathic a heightened character of reliability.

It is my honest belief that in a measure as our materia medica is made more and more to rest upon a pathological basis, as the lesion-creating powers of our drugs are better known and taken into more serious consideration by the general prescriber, in a corresponding measure will our efficiency at the bedside be increased, and the better will our school accord with the scientific progress of the age.

Discussion.

C. A. Weirick, M.D., Chicago, Ill.: Pathological conditions similar to those described by the essayist occur after section of one pneumogastric nerve, thereby indicating their development from serious derangement of the nervous system. This is seen in their frequent occurrence in people debilitated either by old age or intemperate habits, and also in the very young, whose nervous systems become rapidly exhausted because of their greater activity

than in adult life. I think that in these serious cases remedies must be chosen that have some action on the nervous system, and it is highly probable the remedy "Tuberculin," that has proven so successful in Dr. Arnulphy's hands, acts partly at least on that system.

C. B. KINYON, M.D., Rock Island, Ill.: This question is beyond me, so I cannot talk at much length. I am on ptomaines and leucomaines in the system, and I believe that paralysis of the nerves takes place just before the collapse stage, and is due to the ptomaines. I would like to ask the question whether the professor knows positively where they make this Tuberculin? I have used several preparations, some good and some inert.

T. F. ALLEN, M.D., New York, N. Y.: I have had some recent experience with this drug. While in Paris last year Dr. Cartier took me through the hospital there, and they were just then giving Tuberculin taken from a chicken. They were giving it in the 30x. I was going from there over to London, and I took a couple of bottles along with me. It interested me very much from the fact that the chickens had been inoculated with Tuberculin. They have a stable and constant preparation in Paris; whether they have it here or not I don't know. It is an extremely interesting paper which we have just listened to. An acute attack of bronchitis or pneumonia, with fever and without much expectoration, is apt to furnish symptoms of Iodine. I have given it with miraculous results. My indications for Iodine are clear and positive. In the beginning Aconite is indicated, but after the disease is localized it is of no value. We then need Bryonia or Iodine; the distinction between them is pain in Bryonia, which we do not find in Iodine. But Iodine in the early stages of pneumonia or bronchitis must be given low, in my experience. I prepare often my own tincture of Iodine fresh, because it decomposes very rapidly.

S. S. SMYTHE, M.D., Denver, Col.: Tuberculin may owe its influence to the Carbolic acid, of which, with Glycerine, it is largely composed. The point I made was that, as Koch's Tuberculin contains 1 per cent. of Carbolic acid, what influence would the Carbolic acid have in the 12 and 30 attenuations in clinical results? It seems to me a very important question, inasmuch as Dr. Arnulphy and others reported many cures with the 30th potency of Koch's Tuberculin.

DR. ARNULPHY: In reply to Dr. Weirick's remarks I will say that there is hardly any doubt in my mind but what Tuberculin acts upon the pneumogastric and also upon the nerve centres in a general way. A question has been asked about the preparation of Tuberculin I have used. There is no mystery about it. Tuberculin, or Koch's lymph, is a well-known and definite substance, and can be procured from any reliable pharmacy. When I first began with these experiments I got my Tuberculin direct from Koch's laboratory in Berlin, and had it run up in trituration (by Halsey

Bros., of Chicago), but soon found that its strength would not hold out long in that form. Since then I have only used it in tablet form, in which it will keep almost indefinitely.

I am glad that my worthy confrère, Dr. Allen, suggests another remedy for lobular pneumonia, but in my experience I have not been able to get such results from Iodine as he relates. There is a congestive form of bronchitis which, when severe, affects a symptomatology very closely resembling some forms of bronchial pneumonia. It is easy to mistake one for the other. In congestive bronchitis Iodine acts like a charm, but this affection, however severe, lacks the characteristic lesion of lobular pneumonia, for which Tuberculin is the true simile.

Some Practical Deductions from Hahnemann's Law.

By Robert Walter, M.D., Walter's Park, Pa.

We have heard the doleful sound, "boil it down;" we proceed to boil it down.

Science is a description of nature *as she is*—more properly an interpretation of nature. How nature does her work, performs her functions, produces her phenomena, it is the work of science to discover and disclose.

Nature is made up of three distinct subjects, laws, forces, and phenomena, representing causes and effects. Phenomena are the things we see and feel, the symptoms, as the physician would say, while force is the power that does the work and law is the directing agency. And as force without direction would be valueless, so law without force to sustain it, would be equally so, but given the force to do the work and the law to direct its operations, and there is nothing impossible.

Phenomena may be divided into matter and the movements of the material world.

Matter is made up of elements and atoms, unchanging, indestructible, and perhaps eternal, combined into masses of varied and ever-changing forms, or organized into living, growing, moving beings—no matter what the class to which it belongs, it is undergoing constant change, fickle beyond the power of mind to describe or even conceive. It is the work of science to simplify—to reduce the complexities of nature to classes, and above all to show how these classes are produced. "Classification is knowing," as an eminent scientist has said.

The history of science shows that classification may be *arbitrary or orderly;* the former the outgrowth of human prejudice and superstitions, the latter due to the discovery of the law which produces the classifications in nature, and as science is a description of nature *as she is,* the *order* of the classification must be the *order* of nature.

Arbitrary classifications, representing human superstitions, always precede the orderly ones. Facts develop into empirical theories,

too often the " laughing stock " of the ages; these progress into empirical laws, from thence into laws of departments, until finally, the one great law, comprehending all subsidiary ones, is discovered and exact science established. When Archimedes discovered the law of the lever, he introduced exactness into applied mechanics, corresponding to the ability of men to understand and apply the law. The larger department of mechanics, astronomy, went on developing through the conceptions of Copernicus, the convictions of Galileo, the empirical laws of Kepler, until Newton finally conceived and proved that all astronomical phenomena are due to the operations of one grand, all-controlling law, and the disputes as to the great facts of astronomy were ended.

Chemistry went through a corresponding process of development in the discoveries of Lavoisier, Priestley and Dalton, until no one now presumes to dispute the principles of chemistry.

The science of the living world, the most important but difficult of all the departments of human knowledge, has made slower progress. The old ship " Regular " has sailed on without chart or compass, captain drunk, mates asleep, and sailors disobedient—onward and ever onward, upon the sea of speculation; with no port in view and no rudder to guide, it has sent its living freight composed of shorn lambs and plucked geese to the bottom, and has been for ages past best described as jackal to the undertaker. But at length there appeared above the eastern horizon a star of the first magnitude, which has given hope to millions, and is to-day the guiding star to the port of health and happiness. We refer to the immortal Samuel Hahnemann, the lustre of whose achievements shall grow brighter as the ages roll by, and the brilliancy of whose mind, considering the darkness in which he lived, is a thing to be told and retold to children's children until time shall be no more.

But the ultimate classification has not yet been made—the utmost simplicity has not yet been attained. We seek to give impetus to the progress of the human mind in the attainment of exact knowledge on the subject of human health.

We adopt the classification of Sir John Herschel, corroborated by the testimony of the recorded Genesis, that the last and ultimate classification of natural existence is its division into the chemical, the mechanical, and the vital. Each department presided over by one grand, all-controlling and all-producing law, which accounts for, and explains, every fact of the department to which it belongs, demonstrates the truth of all subordinate laws of

which, in the vital department, Hahnemann's is the most important.

The chemical department is first in the order of creation, everywhere acknowledged to be under the control of chemical affinity, known in the language of the Genesis as the great Law of Light, which brought forth from empty, formless, abysmal darkness all visible forms, and still continues its work of alternate production and destruction. The next step in the order of creation was to individualize matter, and swing the world into place by establishing the law of the firmament—the law which gathers the waters together, now known as attraction of gravitation. But creation without life would be a grand failure: and life would be impossible without laws to govern its operations. The basis of living existence came forth when God said let grass and herb appear, and so established life's great law, the analogue of attraction of gravitation, which being understood and applied will do for human health all that attraction of gravitation has done for astronomy. We proceed to indicate the processes, and establish a clear, definite and exact science, and we introduce the subject with a quotation from Hahnemann's *Organon*, Section 10, which reads:

"The material organism without vital force is incapable of feeling activity or self-preservation. This immaterial being (vital force), alone animating the organism in the state of sickness or of health, imparts the faculty of feeling and controls the functions of life." Hahnemann elsewhere says: "In sickness this spirit-like, self-acting vital force, omnipresent in the organism, is alone primarily deranged," and, further, that alone "it can excite morbid sensations and determine the abnormal functional activity, which we call disease."

One hundred years have passed since then, and in the light of modern research we take pleasure in showing that the latest developments of truth only emphasize and clarify the vision of the immortal seer. The nature and character of the living organism, as developed in embryology, histology, and physiology, now clearly prove that Hahnemann was right. To say the living organism is self-producing, self-regulating, and self-repairing, is to state truths that I believe are unquestioned.

By self-producing I mean that the fertilized ovum in the maternal womb contains all the instincts and powers of life, and proceeds through the processes of segmentation and proliferation to build for itself a house in which to live—a machinery through which to work

in accordance with the plan outlined at conception. Who can doubt that the proliferation of cells is the result of power *within the cell*—in the protoplasm of the cell, and not outside of it—and that in the same manner the functions of life in the developed organism are *performed by the cell, by virtue of power residing in it?* Indeed, what intelligible theory of life can we have, if it is not that it is a power capable of the performance of function, the doing of work?

It is not doubted that external things—environment, if you please—may and do modify the vital operations, but *how they modify them is the very pith and marrow of the subject before us!* Does environment either constitute or furnish the power of life, or shall we not conclude that this is *inherent* in living structure? In other words, the power of development resides within and not without, and the process is evolution and not involution, the *unfolding* of a vital principle and not the *infolding* of inert materials. Life, an invisible principle of existence, coming only from preceding life, is *a power*, automatic and spirit-like, which produces all vital activities, and answers to all changes occurring in the vital organism. Just as attraction of gravitation presides over all changes in the relations of masses of matter to each other, and chemical affinity presides over all changes in the atomic constitution of matter, so we infer, and so we have proved what Hahnemann long ago asserted, that vitality is the great, omnipresent, self-acting force upon which is based all vital activity.

But this means, in the language of Hahnemann, that vital force *produces disease as well as health.* The statement is a startling one even in our day. How that which saves also destroys; cures, also kills, and makes pain as well as pleasure, is as paradoxical as is the *law of similars*, belongs to the same class of truth, and is explained in the same manner. Tell me how it is that attraction of gravitation brings the rains down and carries the mists up, floats the balloon or kite, or dashes it to the earth (in a word, presides over every change which takes place in the relations of masses of matter to each other), and I will tell you how vital force makes disease as well as health. Tell me, if you please, how it is that chemical affinity both makes gunpowder, dynamite and other compounds, and destroys them, presiding over every change which takes place in the atomic constitution of matter, and I will tell you how vitality presides over every function and motion of life, and, being understood, explains all vital phenomena, disease included.

Attraction of gravitation is *a power* omnipresent in the universe,

always operating under the direction or control of one definite, unchangeable law, which, by virtue of its being unchangeable, *must* produce opposite results whenever opposite conditions are supplied. Just as chemical affinity is an omnipresent power in matter, which operates in accordance with an unchanging law, and must also produce opposite results in answer to opposite conditions.

The third and most important department of natural existence is not less skilfully provided for, nor less exact in its operations than the others, and is therefore under the control of an unchanging law, sustained by a force (or a force directed by a law, as you choose), and *must also produce differing or opposite results*, because of differing or opposite conditions. If you supply the conditions for health, health will be maintained; but change the conditions and you must have changed results or disease. The quotation from Hahnemann's *Organon*, already made, *suggests*, though it fails to define, the law, but it is, nevertheless, there as a fact, from which Hahnemann evidently deduced the law of similars.

Both chemical affinity and attraction of gravitation are spoken of sometimes as laws and sometimes as forces. As a matter of fact, they are both law and force, *inseparable, unchangeable, universal.* We put Newton's formula in evidence as follows:

"*Every particle of matter in the universe is attracted to every other particle with a force directly proportioned to the mass of the attracting particles, and inversely as the square of the distance between them.*"

In this formula we have a statement of the force of gravity operating in accordance with a law—"the square of the distance"—and together they constitute the great first principle of mechanical existence, the cause and explanation of all astronomical phenomena, which, being understood, makes astronomy to be an exact science. Why should not a formula of life's great law also include not only a statement of the spirit-like, self-acting vital force, but of the law of its operation as well? Pardon me if I presume to formulate this law, as sustained by this force, and from thence proceed to solve some problems, deduce some conclusions, and establish the truth and practicability of the law of *similars* as the greatest, most comprehensive and universally effective law of vital relation.

Life's Great Law—the analogue of attraction of gravitation. "*Every particle of living matter in the organized body is under the dominion of vital force, and endowed with the instinct of self-preservation, which is the first and all-controlling law of vital expression.*"

The force is denominated *vitality or vital force;* the law of its ex-

pression is *self-preservation*, which together constitute the great primal principle of vital existence, the source of all vital activity, the basis of an exact science of human health, and that from which Hahnemann evidently developed his law of similars. Would time permit, I could pile fact upon fact and argument upon argument, mountain high, to prove the truth of this law, but, as it is, I must content myself with applying it to the solution of some medical and physiological problems that sorely need solution. "The proof of the pudding is in the eating."

The salient feature of this great law is its universality within the vital domain, which supplies the missing link to make practically effective that great doctrine of modern physiology, that all vital functions are performed by the cell, or, rather, by the protoplasm of the cell. Life first appears in protoplasm; it continues to live and work as protoplasm, and all vital function is directly traceable to protoplasm. Though utterly destitute of organs, it produces all organizations, and performs all the functions of life just as though it had organs. Without eyes it sees, without muscles it moves, without mouth it eats, without stomach it digests, without brain or nerves it evidently feels and thinks. In a word, endowed with the powers of life it illustrates the laws and processes of life, producing, reproducing, organizing, repairing in answer to its great first law of self-preservation. The survival of the fittest doctrine of Charles Darwin could not be effective to the improvement of the race unless it applied to life in its elementary just as truly as in its developed forms.

But if self-production is a prerequisite to organization, self-regulation is not less so. Nature's balance-wheel is always at work with a skill and wisdom hard to fathom, but producing that "continuous adjustment of the internal to the external" which Herbert Spencer mistakes for the life itself. We are not sure but Hahnemann's law is illustrated in the facts immediately connected with the self-regulating processes, as, for instance, with weakened circulation we have quickened pulse; with reduced breathing power, accelerated breathing; with nervous feebleness, great nervous activity, and muscular activity frequently in ratio to loss of power. In a word, life adapts itself to the conditions imposed upon it, trying to make up for loss of power by increased activity.

In this connection we obtain a consistent view of that problem of the ages, the nature of disease. Well does Hahnemann say that disease is "not a material thing hidden within," but is the product

of the vital force. But *how* the product of the vital force? Let me tell you how:

The universally present law of vital expression is self-preservation, making the organism ever alert to the preservation of its integrity, the protection of its interests, so that whenever injury is even threatened there must be organic fear—cell-fear—and vital disturbance induced by that fear. Sometimes there is no other cause for disease than fear; imaginary diseases are real diseases resulting from imaginary causes. But, again, the causes are often real, as when the organism suffers from traumatism, poison or germs, which causes immediate attempt at defence or repair, with consequent disturbance of the vital functions coincident with inflammation, the great representative disease, and nature's process of healing.

The natural history of disease is thus fully justified and explained. Pathology shows that the first step toward disease is irritation, due, as we have seen, to the recognition by the vital cell of *danger, insult or injury*, and this irritation is perfectly analogous to mental irritation from corresponding causes. The second step immediately follows irritation in the shape of congestion, which represents a marshalling of the vital forces for defence or repair at the threatened or injured part, the succeeding inflammation being the process of repair, actually taking place, not always successful, for the armies of organic life may be defeated as well as those of social or governmental existence.

The additional element of disease called *depression* is due to the withdrawal of the vital forces or elements to threatened points, leaving the depressed part insufficiently supplied.

To affirm, therefore, that the living organism is self-repairing as well as self-producing and self-regulating, is not unreasonable. One involves the other. Work causes waste, and repair must correspond if the organism would continue to grow and live, and all experience proves that this is automatic and universal. Where would the surgeon and his work be were it not for the self-repairing operations of the living organism? And, what is quite as remarkable, these self-repairing operations are effected by a representative disease. Why not, therefore, acknowledge all diseases to illustrate self-reparative attempts, even when the end is failure and perhaps death?

Another of the unsolved problems of medical science is the *modus operandi* of medicines—how medicines act upon the living organism. Thirty-nine students once upon a time were asked to explain "why salt water begins to freeze at the bottom and fresh

water at the top." Thirty-eight of them invented the most ingenious explanations, but the thirty-ninth answered, "It doesn't do it, sir." Untold effort, in times past, was expended in trying to explain how the sun revolves around the earth, but the answer finally came—"It doesn't do it, sir." And our answer to-day to the question of how medicine acts upon the living organism is, "It doesn't do it, sir." Artemas Ward, in his thrilling scenes in Dixie, records an illustrative fact. He says: "We rushed into each other's arms and fell under a two-hoss wagon. I was much exhausted and concluded that I wouldn't git up, but the Secesher said he guess'd I'd better. He pulled me up, but I hadn't been on my feet more'n two seconds 'fore the ground flew up and hit me on the head." Artemas Ward's declaration is quite as reasonable as to assert that a substance whose primal characteristic is inertia acts upon a structure whose primal characteristic is action. A consistent statement of the law of action should forever set at rest this subject, and we commend to our hearers the following formula:

"Whenever action occurs between the living organism and matter extraneous to it, that is, between the living and the dead, the action is to be ascribed to the living and not to the dead."

Artemas felt that the ground flew up and hit him on the head, but the law says it was the head that hit the ground. With regard to medicines, the correctness of this same conclusion will be suggested by considering that from beginning to end the living organism has been the actor *as a matter of fact*. It was a living mind that conceived the medicine, that manufactured it, that prescribed it, that administered it. It was hands that carried it, mouth that opened for it, œsophagus that swallowed it, stomach that received it, bowels or other organs that ejected it. It was nerves, muscles, organs that controlled its operations all the way through. It is, therefore, an absurdity to assert that the action which follows the administration of a drug is the action of the drug. We do not dispute the mechanical contact, of course, but we deny that the action is anything but vital action. It cannot be chemical, because this is defined as a union between two substances, forming a third, which is different from either. If Calomel acts chemically upon the liver, we should, after the action, no longer have either calomel or liver, but in their place a compound which we may term Calomelet of liver.

The same principles obtain with reference to food, drink, clothing. It is the living organism that acts in obedience to its first law of self-preservation, to receive or reject. Who will dispute that vom-

iting and purging are actions of the vital system (bowels or stomach)? Then why claim that it is the emetic or purgative that is acting?

What the drug really does is to call out recognition by the cell and corresponding action of the cell, and it often matters little whether you employ the drug in the 3d, 12th, 30th or even 200th dilution, all that is required in order to have action being that there is enough drug to be recognized by the living structure. If I have some dreadful news to tell my friend some day, what difference in his conduct will it make whether I whisper it into his ear or yell it at him? We suspect that the whisper will be more effective, because the more thoroughly appreciated; so the whisper of the third or the tenth dilution will generally be more prompt and effective than the yell of the crude drug can be.

But some one will say that it matters not which acts, as long as we get the action. Our reply is that no truth can be unimportant to the scientist, and the question of whether it is the drug or the organism which is doing the work is quite as important as whether the sun revolves around the earth or the earth around the sun. Mighty destinies often hinge on small causes. In our opinion the infinitesimal dose is justified only on the fact that it is the organism that acts, and the same action will be secured whether we employ the smaller or the larger dose.

But the real question to be considered is whether it is the organism or the medicine *that supplies the power of action.* If medicines communicate power to the organism, and, therefore, perform the work of the vital system, then, indeed, their use, and in material doses, would be more than justified; but if they only call up vital action and cause expenditure of the vital forces, the reason for great caution in their use becomes apparent, and the infinitesimal dose the only permissible one. We proceed to formulate.

The Law of Power.—The power employed in the performance of vital functions is vital power, and the work done describes, in general terms, the amount of power expended, making, however, due allowance for friction.

As steam alone can drive the steam-engine, electricity operate the electric motor, chemical force produce chemical changes and mechanical force do mechanical work, so the vital force alone can do vital work, can perform vital functions, or, in the words of Hahnemann, "This immaterial being (vital force) alone animates the organism in sickness or in health." If, therefore, the vital force alone performs the functions of the organism, then the performance

of the functions involves the expenditure of the vital force. In health this force is sufficient for the needs of the system, but disease, which is abnormal action, with excessive friction, depletes the forces of the organism, as observation clearly shows. Diarrhœa, cholera morbus or dysentery is exhaustive, but not more so than equal purging or vomiting by medicine. It is the vital system that acts in all these cases and becomes depleted of power because the action is violent and the friction excessive. Stimulation, whether by a caustic irritant poison like alcohol, by an intensely exciting bath, or by the yell of fire at midnight, when you are occupying a room in the tenth story of a hotel, is never recuperative, no matter on what pretence it is employed, or invigorating, though it may seem to be. When the long roll of the slain by the use of tonics and stimulants shall finally be called, there will be included, we opine, in the dreadful list very nearly the whole human family.

We record the great delusion of the ages. The great masses live upon appearances, and are never happy except under excitement—the invalid especially so. When his power to work, think, eat, drink, begins to fail, he loses faith in himself, and immediately repairs to some one whom he thinks knows how to restore his functions. A little whiskey, brandy, Strychnia, Arsenic or other crude drug, by calling up vital resistance, will restore confidence by giving the *feeling of power*. But generations of experiment have proved to some of us that whiskey is not recuperative, even if it appears to be, and we have failed to discover any good reason for believing that Arsenic, Strychnia or other poison is. It is because we have no measure of power but the work it does, that makes us impose the work in order to feel the power. We can prove to the invalid that he has some power left, notwithstanding the feeling of weakness, in the same way that we can demonstrate to any man that a small stick of dynamite has power in it, namely, by "touching off the power." Unfortunately, as by demonstrating the presence of power in the dynamite we destroy the dynamite, so, to prove the presence of power in the patient, we destroy the very power which we prove exists. "Touch off" the patient's vital power with your poisonous drug and make its presence evident, and it is gone never to return. It is written, "The just shall live by faith," a statement which is true only because to live by sight or feeling is to be wrong—to be unjust. He that would follow the living truth must *deny* himself. Appearances are always deceptive. We see and feel the lie; we attain to the true and real by inspiration or intuition verified by reason, the light of

heaven in the souls of men. Excitement, whether caused by Alcohol, Quinine, Arsenic, by threatened danger, imposed labor, or exciting baths, is the evidence of power only because it is the process of expending power; the process of saving power is the exact opposite in feeling, method and result. As we show our strength only by expending it, so we save our power by being willing to feel weak. Quiet, rest and sleep reduce the feeling and evidence of power by saving it, while exciting labor and stimulation increase the evidence of it by expending it. We gain strength by being inactive and feeble; we lose strength by activity, excitement and labor. Sleep is the great process of recuperation, but a sleeping man doesn't show great power. Let it be formulated, therefore, as a great principle of existence that the feeling of strength is coincident with, and the result of, its expenditure. This brings us to the recognition of the great law which the immortal Hahnemann gave to the world a hundred years ago, and which is a legitimate deduction from the preceding truths:

The Law of Effects.—The secondary effect of any agency upon the vital organism, whether it be medicine, food, drink, exercise, rest, sleep or anything whatsoever, is the opposite, if not the equal, of the primary effect.

Here again the macrocosm is illustrated in the microcosm. Action and reaction are opposed to each other in the one as well as in the other. The apparent and the real are exact opposites in the physiological as well as in the physical realm. As the sun does not revolve around the earth, even though it seems to, so the immediate and apparent effect of any act, habit, indulgence, food, medicine, drink, clothing, is not the real and permanent effect. The above, it seems to us, describes a consistent formula of the great law of similars enlarged to cover every act of a man's life, as both observation and reason show. As God is an universal God, so His laws are universal, and if the law of similars is a law of life at all, then it must apply to every act of a man's life as well as to the taking of medicines. Hahnemann taught that medicines which produce diseases are, in properly diminished doses, curative of them, while substances which in their primary effect temporarily relieve are those which in the reaction permanently establish.

What will cure a headache better than a good cup of tea or coffee, unless it be Bromo-caffein, but who are subject to headaches equal to tea and coffee drinkers unless it be Bromo-caffein users? What will produce temporary hyperæsthesia equal to an anæsthetic, or what anæsthetic is there that does not first produce hyperæsthesia?

What will temporarily develop a man's strength equal to brandy or whiskey, but what will permanently weaken and finally exhaust him equal to the same substances? All tonics and stimulants come under the same law. The real effect of a tonic is to *weaken, because* its apparent effect is to strengthen, for the reason that while it communicates no power to the organism, it nevertheless calls up and expends with increased rapidity the power it has. The appearance of strength is coincident with, *and the result of,* its expenditure. What will call forth a man's energy in greater measure than threatened danger, as to be shut up in a burning building, aroused in the night by a burglar, chased by the enemy on the battle-field? The possession of that invisible, intangible something that we call vital force is made evident to us by "touching it off," and nothing will set it off better than brandy, Opium, Strychnine or other deadly poisons, unless it be the struggle for life in the presence of the foe?

But the objector asserts that it is the excessive use of stimulants, narcotics or tonics that exhaust man, not their moderate use. But why do men use them excessively? The law itself shows why, viz., that *by their use to relieve they are permanently aggravating the conditions which they temporarily relieve, so that the longer one takes the stimulant or the narcotic the more he needs it,* and in order to secure the former effect the dose must be constantly increased. If there was good reason for the slightest use of it in the first place there is equal reason for continually increasing the dose as long as the patient lives. Let the habitual user of any drug that has been used for months or years cease its use for a week or two and he will experience secondary effects unmitigated by the contrary primary effects, so that the true effect of the drug, and of its injury to him, will be the suffering which he experiences from its continued disuse. And let the constitution once become undermined by the use of alcohol, opium or other substances and the immediate cessation of its use becomes impossible. In such cases cure can be effected, only by gradual withdrawal of the indulgence in connection with patient and continuous treatment to restore constitutional vigor.

These effects, however, it will be noted, are the result of drugs in massive doses. When the same medicine is properly diminished and potentiated the primary effect is lost in the immediately succeeding secondary effect, because reaction is immediate and so mild as to be unnoticeable except in the relief of symptoms.

The power and value of diminished doses was a hardly less fortunate discovery than the law of similars. We are not of those who

smile incredulously at the so-called notorious custom of allowing patients a smell of the drug, for we cannot see why the smell of a drug should not be as easily recognized and responded to by the vital cell as a drop of the two-hundredth potency. If it was the drug that supplied the power of action we can readily see the absurdity of the smell, but once let it be admitted that the medicine only calls up recognition of its presence that the vital system may act in the way thus indicated, and the smell is fully justified.

But we must hasten. We have claimed for the law of similars a larger range of application than is generally acknowledged, but after an experience of thirty-eight years in the use of sanitary appliances for the cure of diseases, we are compelled to the recognition of the fact that whether you cure or only temporarily relieve by sanitary appliances depends, upon whether you apply them in accordance with *similia* or *contraria*. Our experience has been personal as well as professional. Indeed, we may say that our convictions have grown largely out of personal experiments, corroborative of professional experience.

Baths and bathing are a representative form of sanitary treatment, and the kind of bath, its temperature and frequency varies wonderfully with different prescribers, and what is sadly unfortunate but easily explained, the prescriptions are more generally wrong than right, for the reason that both patient and physician generally rely upon the immediate effects as the real test of the value of the bath, forgetting that the secondary and permanent effects are the exact opposites of the primary ones.

One would think that a tonic bath is the proper thing for a weak patient, but let us reflect that the tonic effect is caused by increasing expenditure of the patient's already depleted forces, and it can readily be seen that it is continually weakening instead of strengthening him. The stimulating bath is often very grateful to a patient, but so is a dram of whiskey, and the oftener he takes the bath the more he needs it, and by and by he becomes so addicted to its use that his cold morning bath seems to be a necessity.

Again, under one form of practice we have baths ranging from 120° to 180° temperature, and under another they range from 50° to 80°. One physician administers them twice a week, and another eighteen or twenty times weekly. One gives them for two minutes at a time and another for ten to twenty minutes, and these differences are not due to the different conditions of the patient, but to the notions of the physician. For fifty years these varied forms of

treatment have been administered, and the true principles do not yet seem to be generally recognized. We commenced ourselves thirty-eight years ago by rising in the morning, breaking the ice and having a cold bath, and we have experimented with every phase between zero and boiling-point, from daily to weekly, from two minutes to thirty. And to-day we are compelled to urge that a bath, like a Homœopathic medicine, should be so mild that its primary effect upon the constitution should be unnoticed in order that the patient's system shall not be taxed or violent reactions be established. It is the mild power that cures here as well as elsewhere. A simple, neutral, general bath, administered for cleanliness, in connection with rubbing to promote circulation and improve nutrition of the skin, will prove permanently beneficial if not too frequently administered, but the objection to it in the patient's mind is the same which he has to the Homœopathic dilution, viz., that there is not enough of it—that it produces no sensation or excitement.

The same principles apply to every act and habit of a man's life. What surer way to coughs, colds and consumption than to carefully seclude oneself in close rooms, from heaven's pure air. How may one secure to himself throat ailments better than by careful protection from cold air, as in hot sleeping and living rooms and by the use of fur or woolen mufflers; and how better provide for an attack of pneumonia than by living in warm rooms, using chest protectors and chamois vests, at the same time that free and full eating and drinking are indulged to keep up the strength and *prevent* the pneumonia, forsooth? And how more certainly render the attack fatal than by a continuance of the same practice, viz., the exclusion of pure air, the drinking of hot slops with the abundant use of stimulants and stimulating food.

The diet problem finds its solution in the same manner. If a patient suffers from weak digestion it is not Homœopathic to feed him food easy of digestion and then stimulate with tonics, pepsins, etc., for who cannot see that the tonics weaken the patient, while the lack of normal exercise in the digestion of food weakens the stomach; but give him plain, wholesome food which at first view might seem to aggravate the trouble, and it will cure him. Again, if the patient is enfeebled from poor nutrition, he is too often fed with increased frequency in the attempt to restore vigor. But does it do it? My first recollections as a child are those of dyspepsia, which continued through all my early life. I have experimented with all kinds of food; for seven years was a vegetarian, for two

years lived absolutely without salt, eating food easy of digestion, then the most difficult of digestion; five meals a day, three meals a day, two meals a day, and for six years, at two different times, I ate but once a day, and by the latter plan gained flesh each time and attained my heaviest weight, with a degree of digestive power that was a marvel of efficiency.

I feel sure that I have made clear the principle showing that the real and permanent effect of any habit, indulgence, substance, activity, is the exact opposite of the temporary effect.

Allow me to close by summing up in three words the true Homœopathic theory of cure:

Remove the cause (of the disease).

Supply the conditions (for health).

Accumulate and not dissipate that omnipresent, automatic, spirit-like vital or healing force, and you have a science theoretically exact and practically successful.

The Roentgen Rays in Medicine and Surgery.

By F. Parke Lewis, M.D., Buffalo, N. Y.

When the fascinating narrator of the Arabian Nights' Tales unwisely was prevailed upon by her sovereign to add a thousand and second to those already told, she brought her hero into a country in which the water was solid, and men walked upon it, while the air was navigated by those who were borne aloft by huge red balls. Animals were seen that were fed black sand and masses of iron, and when they were teased by fire, they disgorged the thing which they had swallowed, killing men and sinking ships many miles away. These and many more facts of occidental creation were poured in the suspicious monarch's ear, who, growing more and more angry that his credulity could be so imposed upon, at last leaped from his couch that he might immediately order the bowstring as a reward for such mendacity. Sinbad and the Roc he could accept, but the marvels of a common knowledge were too wonderful for his understanding.

When the cable conveyed to us the nature of Roentgen's discovery, it seemed so startling as almost to pass belief. But it is not, in fact, essentially more incredible than are many of the facts of daily observation. It is not more wonderful that visual impressions can be carried through wood, or brick, or stone, or the human body, than that we can see at all.

We do not understand to-day why molecular vibrations in the hypothetical ether excite physiological reactions in the rods and cones of the retina, which are carried through the optic nerve fibrillæ, and which, in the visual centres of the brain, in turn through a psychological transformation, give the idea of the object looked at. Our habits of thought modify our ideas of things. "If the stars," says Emerson, "should appear but one night in a thousand years, how would men believe and adore?" But the stars, with all the multiplied interest that astronomy has given to them, shine constantly down upon us, until in our petty struggles among lesser things we scarcely take the time to raise our eyes to them. Light, like the air that we breathe, is such a common necessity, that we forget that it is subject to analysis, and that it is found to

possess properties of which we perhaps have never dreamed. Almost all of the great discoveries in Natural Law have been made by simple means, and it was only necessary that the ready, alert mind be there to grasp and apply the principle as it was manifest, and the great wonders of the world have stood out ready for man's use. To understand practically the possibilities of the Roentgen Radiance, its relation to that other form of molecular motion manifested as Light must be recalled.

When by sifting light through a prism, the wave lengths were so modified as to produce the visible spectrum, much was already accomplished! But what we see of the spectrum constitutes an exceedingly small portion of that which we know to exist. Professor S. P. Langley, of the Smithsonian Institute, by means of an ingenious instrument which he devised and called the bolometer, demonstrated the fact that below the red were rays which could be accurately defined and charted, and were found to be in extent fourteen times the length of the entire visible spectrum. The application of the bolometer is based upon the principle that the electrical conductivity of a wire is modified by alterations in temperature. "It consists," says Dr. J. Mount Bleyer, "of a series of plates of metal connected with a battery and galvanometer, to the latter being attached a very minute concave mirror, on which is thrown a narrow pencil of light. When the spectrum falls upon the blackened surface connected with the metal plates the electric resistance is changed, the galvanometer is deflected, and the spot of light reflected from the concave mirror, which is hung upon a very fine quartz fibre, is received upon a photographic plate. The galvanometer deflections are shown as in the accompanying figure, which is called a bolograph, and from which the line spectrum is constructed. The theory upon which this is based is, that where the infra-red spectrum falls there is development of heat, but where the Frauenhofer lines occur there is no heat, and therefore there is a deflection of the spot of light. With the bolometer it is possible to measure a difference of heat of a hundred-thousandth of a degree of Fahrenheit's scale."

It has been for a long time known that rays exist beyond the violet. Indeed, these rays have been utilized in photography, and in this direction the invisible spectrum reaches at least nine or ten times as far as that which can be seen, nor does actinism belong wholly to the violet end, for with heat rays alone objects have been photographed in absolute darkness.

It is not my purpose to consider at this time the nature of these rays, but before speaking of their practical utility I wish to refer to another discovery of almost equal importance, and which has a very direct relevancy in this connection.

Several years ago Nicola Tesla began a series of experiments with electric currents having an enormously high potential and great frequency of interruption. To obtain such a result special apparatus was required, and this the greatest electrician of modern times obtained in what he termed a disruptive coil.

The greatest possible result that could be obtained by the agency of an ordinary Rhumkorff apparatus fell far short of his necessities. He devised, therefore, an appliance in which the current from one coil was carried to a secondary coil, and the disruption produced by the second break in the continuity, with great frequency of interruption, raised the potential to upward of a hundred thousand volts.

The electric energy in this process, however, became so diffusible that it was impossible that any ordinary insulation in the coils would be sufficient. The entire apparatus was therefore enclosed in a strong, hard-wood box, the coils being immersed in boiled oil.

The results thus obtained were startling in the extreme. It was found that an entering and return filament were not essential in the exhaust globe to produce light, but that a single filament was sufficient, and this was not itself affected, but a glow of luminous light pervaded the vacuum when this remarkable molecular vibration was established. By varying the conditions it was discovered that luminosity could be produced outside of the tube, like St. Elmo fire, that sheets of brilliant light could be made to extend between two electrodes in the open air and a foot apart. Finally, in a lecture delivered before the leading electrical engineers and physicists in London, and later in Paris, Tesla demonstrated the possibility of governing, and making luminous, the ether by holding in his hands a tube from which the air had been exhausted, and which glowed with a brilliant light. While Tesla was making the experiments and discoveries along these lines, Heinrich Hertz, Roentgen's friend and co-laborer, was working in parallel, if not similar, lines.

One of the most important of the discoveries made by Hertz was that when the poles of an electric battery were too widely separated for a spark to be produced it was possible, by throwing ultra-violet rays upon it, to re-establish the current.

A like factor of almost equal importance concerning the Roentgen

ray was the discovery made recently by Prof. J. J. Thompson, that an electrified body, whether the charge be positive or negative, can be discharged by throwing X-rays upon it. This constitutes a more sensitive test than either the photographic plate or the fluorescent screen for determining the presence of the Roentgen rays, and is equally effective whether the charged body be in the free air or be insulated by paraffine, sulphur or vulcanite. As Prof. Thompson has shown, the remarkable fact exists that an insulated layer becomes electrically leaky when being traversed by the Roentgen rays.

The further experiments of Hertz proving that electrical light-waves are subject to the natural laws governing light transmission, and that waves af electrical energy may be reflected, refracted and polarized, together with the fact to which reference has just been made, that the waves of molecular motion propagated from an invisible portion of the spectrum could govern electrical energy, leads very strongly to the belief that the manifestations of light, electricity and of the X-rays are similar forms of molecular wave motion differing probably only in wave length, as those of one part of the spectrum differ from another, but essentially the same in kind.

It is not a new fact that ordinary white light has the power of penetrating an opaque substance sufficiently to affect a photographic plate concealed beneath it.

Objects have been photographed long since through vulcanite plates by the aid of sunlight. While Prof. Dolbear, in 1892, demonstrated that photographic action would take place in the dark, and made a profile of a five-pointed ironstar on a photographic surface when the latter was separated from the sparks by the top of a table an inch in thickness, and all light was excluded. His conclusion, therefore, seems justifiable that "there are no peculiar kind of ether waves which can be called light, as distinguished from other kinds of ether waves." We have apparently arrived, therefore, at the conclusion, although it has by no means been demonstrated, that to the known spectrum, including the Langley spectrum, and at the other end the ultra-violet rays, we may add those vibrations known as electrical waves, and also the Cathode, the Lenhardt and the Roentgen rays.

It will be found, in all probability, that the fixing of names has been an arbitrary division. It may be found that what has been termed the Roentgen rays constitute a long portion of the spectrum, and will be subject to further and more critical analysis.

I can discover no adequate ground for the belief that the Roentgen

rays are longitudinal vibrations in ether, and when it shall have been determined that they are alike in kind with those other molecular vibrations constituting light and electricity, and governed by like laws, it will probably appear that those of the X-rays that have proven most efficient in their powers of penetration through substances opaque to light, are those that have the shortest wave length.

Of very practical importance to the physician and surgeon in his work is the question of efficiency. It has been found that the depth of penetration of the Roentgen ray, the clearness with which the shadow is thrown upon the fluorescent screen, the distance at which the impression can be recognized, are all largely dependent upon the kind of coil used, the degree of exhaustion, and the shape and character of the vacuum-tube.

As might be expected, the most remarkable results have been obtained by an apparatus similar in kind to that with which Mr. Tesla obtained his wonderful luminosity in vacuum tubes. To get the appliance, however, is a matter of extreme difficulty, as it is not commercially upon the American market.

Mr. Tesla has personally promised, as soon as his multiplied labors will permit, to place in my hands an instrument of his own devising, simple in construction, but capable of producing an exceedingly high potential.

Failing to secure from the dealers in electrical supplies such an instrument, I wrote to the editor of the *Electrical Review*, asking how a disruptive coil could be obtained. In answer to my letter Mr. Elliott Woods, of Washington, gives the following description of a high frequency coil which he succeeded in having made after no inconsiderable effort. It is of such value that I give it in full.

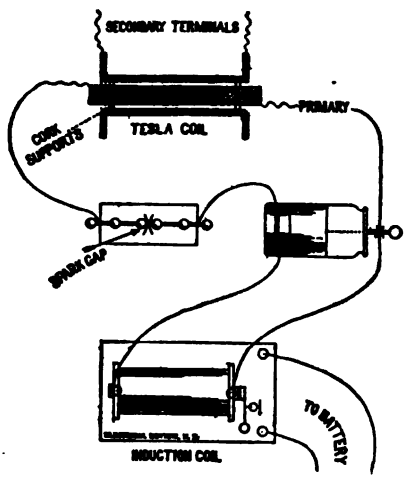
"Go to some reliable wood-turner and have a spool turned of three and one-half inches, outside diameter, with the interior turned out two and one-half inches in diameter. Have a solid piece turned on which to wind your primary, two inches diameter and fourteen inches long. The length of the first hollow spool should be twelve inches. It would be well to have the first spool one-half inch longer at each end, or thirteen over all, but turned down one-quarter inch deep and of a width of one-quarter inch, so that a check-block can be turned to slip on the end of the outer spool for appearance sake, and to which the terminals of the secondary wire can be led. The rough sketch herewith, Fig. 1, will give you the proper idea.

"For the primary, wound on the solid core, use No. 18 double cotton-covered wire wound in a single layer, with the ends being

fastened to the core and left with plenty of projecting wire. For the secondary, use No. 36 double silk-covered wire carefully and compactly wound across the outer spool in a single layer. After winding, both the inner coil and the outer should be carefully shellaced; and it would be well, as I have done, to boil all wood pieces in paraffine before winding.

"Such a coil can be operated for high-frequency effects by an ordinary spark-coil giving at least two-and-one-half-inch spark. To do this you will require a Leyden jar ordinarily known as a half-gallon jar. The discharge of the jar must be made through the pri-

FIG. 1.



Sectional View of Tesla Coil.

mary circuit of the Tesla coil, and care must be taken to arrange the wires so that you will not short circuit the induction coil. I have endeavored to sketch you the ordinary form of discharger (Fig. 2), with well-polished balls which must be drawn apart to the limit of the sparking distance of your Leyden jar. Another way would be to keep the discharging balls tolerably near together, and use an air-blast across the gap when the coil is in operation. The effects by this latter method are much greater.

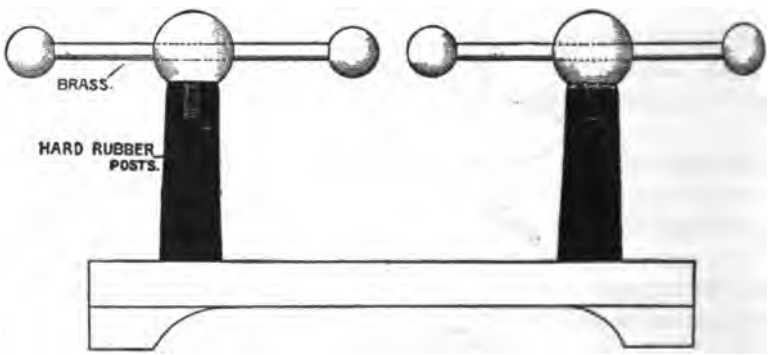
"To give the Tesla effects, the Tesla coil should be placed in an oil-tight wooden box and covered with oil; otherwise the streams formed will pass through the coil sectionally and occasion a great loss of energy.

"A Crookes bulb, which I cannot operate with my three-inch spark coil *alone*, fluoresces readily when the Tesla coil is operated by the same induction coil."

Strangely enough, although Tesla's work seems to be practically unknown to the instrument-makers of this country, I have just had sent to me the catalogue of Max Kohl, of Chemnitz, Germany, describing in detail and offering for sale Tesla's perfected appliances.

The tube which he uses is peculiar in that it has but a single entering electrode, but the results which he has obtained by its means have been astonishing beyond belief. He has been able to see the heart of an assistant so clearly as to be able to note its expansions and contractions.

FIG. 2.



Discharger Used with Tesla Coil.

In some instances he has located evident defects in the lungs, and by means of the reflectors which he employs, "an impression of the hand was taken at a distance of about 6 feet from the bulb with an exposure of less than one minute, and even then the plate was over exposed."

With the screen in Mr. Tesla's hands, shadows have been observed at a distance of 40 feet, and that has suggested to him, that it might be possible to observe by the aid of such a screen objects passing in the street.

He remarks, with the delicate humor characteristic of him, that this only hints at the way in which scientific developments may affect our customs and morals. "Perhaps" he goes on, "we shall get so used to this state of things that nobody will feel the slightest embarrassment while he is conscious that his skeleton and other particulars are being scrutinized by indelicate observers."

Of course Mr. Tesla's observations have been those of the scientist rather than of the physician, but the medical profession has hardly been behind the great scientists in the promptness and enthusiasm with which it has taken up the work of individual experiment, and already not a little has been accomplished in the way of a practical application of the X-rays to medicine and surgery. The discovery by this means of foreign substances lodged in the human body has been most satisfactory. Bullets, needles, pieces of glass, etc., have been found and removed, and *reports* have been made of the successful application of the rays in locating some forms of calculus. The relative transparency of calculi to the rays, however, has made this branch of investigation less certain than with denser substances. Goodspead, Neusser, and others report through the *Medical News* that gall-stones have been skiagraphed outside of the body, but so imperfect have been the results when the stone has been obscured by only a single thickness of the wall of the bowel, that no diagnosis could be made from it. Neusser has shown that phosphatic and other urinary calculi are opaque to the Roentgen rays. but they have not yet been seen by this means in the human body, neither as yet have renal calculi been located.

Fractures, dislocations and malformations come out very strongly.

More, indeed, has already been accomplished in surgery than in any other branch of medicine, and to the surgeon the getting of yet greater results than have yet been achieved, is a most alluring possibility.

Keen, of Philadelphia, reports a number of interesting surgical cases. One is that of a hand burned between the rollers of a heated mangle, in which the bones were shown to be completely soldered together.

The shadows of the bones of the cranium as well as those of the pelvis have up to the present time made it impossible to locate neoplasms either cerebral or abdominal with the skiagraph or the fluoroscope. The remarkable results, however, obtained by the Tesla appliances would lead to the belief that these difficulties may be overcome in the near future. The prominence and obtrusion of these bone shadows have thus far prevented any very definite accomplishments in the field of obstetrics.

The application of the Roentgen photography and fluoroscopy therefore, in this particular field, has up to the present time been more promising than satisfactory.

Studies were undertaken by Professor Edward P. Davis of Jeffer-

son Medical College to determine whether the skeleton of the fœtus could be recognized by this method in the mother's womb. To test this the following experiment was undertaken. The skull of an infant at term was placed in a female bony pelvis, upon a sensitized plate completely sealed in a pasteboard box. The pelvis was placed in such a position that it rested upon the plate upon the tuberosities of the ischia and coccyx. The skull was laid obliquely in the pelvis. An exposure of one and one-half hours was made to test thoroughly the various portions of the skull and pelvis subject to the rays. It was found "that the fœtal skull gives but a very faint shadow under the action of these rays. In marked contrast to this is seen the black coccyx, which rested upon the plate, and also the rami of the pubes and the spines of the ischia."

To further determine the penetrability of the fœtal skull, some buckshot were dropped into the skull with the parietal surface resting upon a sensitized plate. The rays therefore passed through both sides of the skull, and the accompanying print will show the clearness with which they were reproduced. Like preliminary tests were made by Dr. Henry Chandlee, Professor of Obstetrics of the Southern Homœopathic Medical College. The first experiment was made by Dr. Chandlee upon a six-months fœtus which was taken from his collection, and which had been preserved in alcohol for a year. The accompanying plate will show the clearness with which the cartilaginous and bony structure was developed; similar radiographs were made of a six-months fœtus in the uterus which had been obtained at an autopsy, the patient having died of traumatic peritonitis. The definition, as the plate shows, was clear and distinct, the enveloping walls of the uterus being only slightly in evidence.

Both Dr. Chandlee and Dr. Davis found, however, that their attempts to obtain a skiagraph of the living child *in utero* presented too many obstacles to be overcome. Chief among these was the heavy shadows cast by the pelvic bones.

In no case was either mother or child in any degree affected by the passage of the Roentgen rays.

Dr. F. H. Williams, of Boston, says that in pulmonary tuberculosis he has been enabled to verify by the fluoroscope the existence of an area of dulness previously diagnosed by physical examinations. He also is said to have confirmed a diagnosis of hypertrophy of the heart in the same manner.

Conflicting reports were at first published as to the effect of the

X-rays on bacilli. Both Sternberg and Kyle report, however, that under most careful observations they have been unable to detect any modification or change under the action of the rays.

But what has been done and proven, and what *may yet be done*, practically, with the X-rays, are not by any means synonymous.

Dr. de Schweinitz has found that the transparent media of the eye are almost entirely opaque to the Roentgen rays. The retina, on the other hand, as Kühne and Boll have shown, by the disintegration of the visual purple becomes absolutely a photographic plate.

A book has recently been published which claims to have demonstrated the startling fact that an image vividly impressed upon the retina in a strong light can be reproduced upon a sensitive photographic plate in absolute darkness, by simply looking steadfastly upon it. In verification of the statement, an illustration is given of what might be called a retinagraph, faint, indeed, but perfectly distinct in outline.

If this be true, a hitherto unknown law of vital physics has been touched upon, offering a still unexplored field for investigation, having a possible correlation with the mysterious new radiance, but of even greater import and deeper significance.

Angina Pectoris; its Diagnosis, Prognosis and Treatment.

By T. C. Williams, M.D., New York, N. Y.

Since it was first described by Rougnon in 1768, angina pectoris has claimed for its victims so many noted persons that it has acquired an interest, aside from its medical aspect, that is historical.

While not frequently met with in its most grave form, in the milder manifestations it is often brought to the notice of the physician, who is often consulted by anxious patients who have a "pain in their hearts," and who are certain that they are liable to sudden death therefrom.

The complex and imperfectly understood nature of the nervous apparatus presiding over the nutrition and functions of the heart and its intimately related structures, the arterial system, throws decided obstacles in the way of an absolutely clear understanding of the nature of the causes, for evidently there is more than one cause, that operate to produce the group of symptoms known as angina pectoris.

In order to arrive at as clear an understanding as possible of the conditions influencing the diagnosis, prognosis and treatment of this disease, let us examine the various causes, according to the most reasonable theories, that combine to produce it.

1. Pathological changes have been found *post-mortem* in the pneumogastric and phrenic nerves, the cardiac plexus and the intra-cardiac ganglia.

These changes will explain best the occurrence of the disease in a certain limited number of cases.

2. The theory advocated by Heberden in 1772, and endorsed by the great John Hunter himself, afterward a victim of the disease, that the pain and disturbed heart action are due to a tonic spasm of the heart muscle, a "heart cramp," with a modification, which, in the light of modern pathology, I think, we are justified in adding, recognizing the undoubted influence of the general arterial tension and blood pressure, will, I believe, account for a vast majority of the grave cases.

In cases coming under this head there is a disturbance in the

equilibrium between heart power and blood pressure, wherein the heart is too weak to overcome the resistance offered by the pressure of blood in the arteries. This may be either a relative or an absolute weakness. The blood pressure may be normal and the heart abnormally feeble; or the heart may possess its wonted vigor and still be too weak to overcome a blood pressure abnormally great.

In either case the heart cavities are surcharged with blood, are dilated; and to this overdistension are due the agonizing pain and the disturbed cardiac action.

The pain as located in the heart itself, in cases coming under this division, is of two distinct varieties, one a sense of constriction, and the other a sensation of fulness, as if the heart would burst.

No doubt the sensation of the patient indicates the true state of affairs; distension with tonic spasm of the heart muscle in the first instance producing the sensation as if the heart were grasped by an iron hand; simple distension without spasm in the other causing the feeling of bursting. It is now readily understood how it is that angina pectoris occurs so seldom in cardiac disease where the right heart only is involved. In such the normally insufficient tricuspid valve allows of sufficient regurgitation of blood into the auricle to relieve to a decided degree the right ventricle, which would otherwise become overdistended with blood. In case the tricuspid valve is pathologically insufficient, the regurgitation is still more effective in relieving the ventricle.

For the same reason angina pectoris is rare in mitral insufficiency, the incompetent mitral valve allowing the regurgitation of blood into the left auricle and pulmonary veins, and thus relieves the tendency to increased tension in the left ventricle. Evidence tending to establish this contention is found in persons who have been subject to attacks of angina and who have been entirely relieved of their paroxysms upon the establishment of a mitral regurgitation, either through an intercurrent endocarditis or dilatation of the left ventricle rendering the mitral curtains relatively too short to prevent the reflex of blood through the mitral orifice. Among the exciting causes the principal ones, therefore, are those operating to weaken the heart or to cause increased blood resistance.

Influences tending to produce vaso-motor spasm, such as chilling of the surface of the body, excitement or grief, pain or over-exertion, are potent causes. The case of Dr. John Hunter illustrates the effect of the emotions in causing an attack. He used to say that his life was at the mercy of any scoundrel who chose to insult him,

and his words proved true, for he died in an attack following a quarrel. Sudden over-exertion will increase blood pressure, and therefore becomes a most frequent cause of paroxysms. Many cases are precipitated by the over-exertion attending hill-climbing. Aortic regurgitation is the condition in which angina most often occurs, because of the chronic state of over-distention of the left ventricle and the accompanying great increase of blood pressure in the arteries. The increased pressure found in general arterio-sclerosis and contracted kidney also frequently causes this affection.

Obstruction of the coronary arteries either by calcareous deposits, as in the case of John Hunter, or emboli, operates through weakening the contractile power of the heart and thus allowing of over-distension.

Bearing out the theory of over-distension as the most frequent cause of angina, is the fact that death sometimes takes place from rupture of the left ventricle.

3. Neurotic angina is often encountered in women, and is not liable to cause sudden death. This form usually is found in connection with hysteria, and as a reflex from uterine disturbances.

In the grave variety the paroxysm lasts just so long as the discrepancy between blood pressure and heart power lasts. A strengthening of the contractile power of the heart, or a lessening of the resistance in the arteries, tends to end the attack. This fact is of the greatest importance in treatment during the paroxysm.

The *diagnosis* of angina is based upon the character and location of the pain; the presence of heart weakness, either absolute or relative, with arterio-sclerosis and augmented tension in the systemic arteries. In addition to these points there is a characteristic mental condition, which is almost invariably present in the grave variety, and that is a conviction that death is impending. This idea is so marked that the sufferer is afraid to change his position, remaining in a rigid, immovable attitude, almost refusing to breathe for fear of precipitating the end. Acute gastralgia, or pain in the region of the heart associated with locomotor ataxia, sometimes closely simulates the disease under consideration; but the characteristic radiation of the pain into the left arm and the left side of the neck, and the fear of death, are not present in these cases.

The diagnosis between the grave and neurotic forms is readily made. The grave occurs usually in males past middle age, and is usually associated with aortic disease either alone or accompanied by disease of the blood-vessels. The paroxysms are usually pre-

cipitated by exertion or some other cause tending to produce increased blood pressure. The sense of imminent death is almost always present, but without general nervousness and restlessness. The attack is short, and the patient remains rigid and motionless until it has passed, which is usually in a few minutes or a few seconds even. The neurotic form may occur at any age, usually in women of hysterical temperament; the attacks are prolonged, and there is an absence of the peculiar sense of inpending dissolution. The seizures are liable to bear relation to the menstrual period, and are associated with restlessness and general nervous phenomena. In addition, the heart is usually found to be sound.

The *prognosis* in this disease must be governed by the cause of the seizures. In the neurotic form the prognosis cannot possibly be bad, and if not cured before the menopause, will probably end at that time.

Is it possible, however, to cure angina pectoris due to advanced aortic disease, to arterio-sclerosis, or to any of the forms of cardiac degeneration or degeneration of the cardiac nerves? I think it will be agreed that a cure under such conditions is impossible, or at best extremely infrequent.

We possess means, palliative in their nature, which, taken in conjunction with proper hygienic and dietetic regulations, are capable of shortening and modifying the paroxysms and rendering them less frequent.

These remedies are of undoubted value in prolonging existence and rendering the life of the sufferer more tolerable. But palliation is not cure, and in the grave form of the disease becomes gradually less and less effective, the intervals between the paroxysms becoming shorter and shorter, and the seizures progressively more severe and protracted, as the causative lesion in the heart, nervous system or blood-vessels becomes more thoroughly established.

Our remedies, at first very effective, may postpone the inevitable end a few weeks, a few months or even a few years, but our patient will eventually die in an attack of angina.

The prognosis during the paroxysm is grave in proportion to the evidences of disturbance on the action of the heart and circulation. One element of hope in the prognosis is its uncertainty. The patient may die in his first attack, as did Dr. Arnold, of Rugby, or death may not occur until twenty or more years of suffering have been placed to the credit of the patient upon the book of the Recording Angel.

Treatment.—The dietetic and regimenal treatment is of the utmost importance during the interval between the attacks. The patient must learn to shun all mental and physical excitement to the greatest possible extent, especially when the attacks can be traced to such influences. The diet must be plain, but nutritious, with tea and coffee forbidden. Tobacco, being a heart depressant and vaso-motor excitant, should be interdicted. The temperate use of spirits, especially wines, is usually beneficial. All articles of diet which the experience of the patient has shown to be harmful should be avoided.

The bad effect of high altitudes is undoubted, and hill-climbing must be avoided. The remedies indicated during the interval between the attacks are the means we are forced to depend upon to effect a cure, those administered during the paroxysm being merely palliative. To the Homœopathist the mere enumeration of such remedies as Acon., Arsen., Kalmia, Spigelia, Digitalis, Rhus tox., Merc., Kali iod., Cactus, Nux v., Cuprum and Hydrocyanic acid will bring to mind their efficacy in this disease.

During the paroxysm prompt, certain and energetic measures are absolutely necessary. The patient must be placed in a quiet room, where he will be entirely free from annoyance of any kind. Cold applied in the form of an ice-bag to the præcordia frequently acts in a prompt and positive manner, affording relief at once. This may be supplemented by giving the patient pieces of ice to eat. In a few instances hot applications will afford relief. Let the patient decide which shall be used.

The best and most promptly-acting among the palliatives, when the attack is due to vaso-motor spasm, is Amyl nitrite. If spasm be not present, however, this remedy will do no good. Only a trial will tell us of its efficacy or uselessness in a given case. The best mode of administering it is by inhalation, and it should be discontinued immediately if the patient complain of fulness in the head and is greatly flushed.

The use of Glonoine 1x during the paroxysm hypodermically, and *per oram* during the interval, is valuable when the arterial tension is high. One or two drops of the watery solution, 1st centes., may be given, but it will be found necessary to increase the dose when the patient becomes accustomed to it. Among the other nitrites, the Nitrite of sodium stands at the head, especially between the attacks.

In angina of syphilitic origin, Kali iod., Mercurius, Aurum and Nitric acid will be of value, according to the indications.

Among our Old-School brethren Digitalis in material doses, combined with Glonoine to counteract the contraction of the arteries produced by Digitalis alone, is in great favor just at present, and as a mechanically-acting remedy certainly fulfils the indications in many cases, both in the interval and during the paroxysm.

In concluding, with apologies for having taken the valuable time of the members through the presentation of a paper of doubtful value, it will do no harm to bring to mind the fact that, in searching for a remedy for the *cure* of this exceedingly painful and dangerous malady, we are not liable to find it excepting in the remedy that is Homœopathically indicated.

The Pathological Value of the Microscope.

By A. B. Grant, M.D., Jackson, Mich.

For our scientific knowledge upon the embryonic development of the lower animals, we are probably indebted more to the great Russian morphologist, Metschnikoff, than any other. It was he who first noticed their similarity of function and formulated his great mass of observations in what is called his "phagocyte theory."

On account of their great interest to all classes, these observations have become widely known, such as intracellular digestion, etc. Following out these facts, obtained in purely morphological research, he was enabled to lay the foundation for certain views which are of the most practical interest concerning many diseases of the human race.

In a tadpole, whose legs have commenced to grow, the tail begins to wither and disappears, and in this organ Metschnikoff made another interesting discovery. The tissues being of no further use to the organism, he found that the leucocytes had attacked them, and were gradually eating them away. He often found unmistakable particles of nerve and muscle tissue inside their bodies which were undergoing a process of digestion. In the pupa stage of insect metamorphosis the internal organs are disintegrated, and here again the phagocytes attack the useless tissue and eat them. Certain strong, well-nourished cells, however, remain unmolested, and from these the organs of the adult are built up. Such an occurrence being rather remarkable, the question at once suggested is, Why do these phagocytes destroy one tissue and leave another unmolested? Metschnikoff has shown that these wandering cells exert an undoubted choice in the selection of their food, and prefer dead to living tissue. Taking some sea urchins' eggs, and killing them by boiling, he carefully injected them under the skin of a nudibranch, one of the gastropods, and found that they were immediately surrounded by ameboid cells and devoured by them in the usual manner. The same experiment repeated, except the injected eggs were not boiled or killed. The result was that they not only remained unharmed, but, on the introduction of spermatozoa among them,

they were fertilized, and commenced to develop. In such an experiment it is noticeable that when a foreign body is introduced into an animal through an injury, the leucocytes in the immediate vicinity are not the only ones which are ready to attack the invading particles, for very soon their fellows from distant tissues appear and take part in the fray. And not only do they attack organic substances which, by digestion, would be assimilated, but also inorganic particles, which they cover by their protoplasm, and retain so that they can do no harm to the animal.

Again, it has been stated that if a bit of sponge be inserted under the skin of any of the mammalia, it will, in a very few days, disappear; and if before this occurs it be taken out and examined, it will be found full of phagocytes, which are destroying it.

Osler, in an address upon this subject, says that in the sputum of smokers there appear cells from the alveolar epithelium of the lungs which are evidently ameboid, carrying particles of carbon. The same is said with miners who inhale coal dust, and that these carbon-laden cells may continue to appear for months after the man has ceased to expose himself to the dust. Some of us have observed the serious results of such unusual work put upon the lungs.

In the process of digestion in mammals, fats are emulsified in the intestine and transferred through its wall into lymph vessels, and the numerous leucocytes are known to carry the fat particles through the lining epithelium into the lymph capillaries beneath, where they disintegrate and liberate their load. It is not definitely understood how the fat particles are taken in, but it is supposed that the leucocytes push out processes or pseudopodia to the surface of the stationary epithelial cells, and then surround them and draw them inward.

One more fact concerning the action caused by the introduction of foreign, inorganic bodies is, that if the substance be too large, the leucocytes often unite with one another and cover the object, making a fixed covering of fibrous tissue, known as encystment. In their attempt to dispose of foreign particles, great numbers of leucocytes die, and their disintegrated bodies are what we call pus. We shall see that these leucocytes have a far more important function, and its discovery was also made by Metschnikoff. A number of diseases which man and other mammals are subject to are caused by bacteria, which enter the body in various ways and occasion changes in the tissues that may be exceedingly dangerous. The most important function of these phagocytes is to take up these

micro-organisms and destroy them. The micro-organism of splenic, or what is termed "malarial fever," is a large bacillus; for bacteria, as you all know, are extremely small objects, even when highly magnified. Metschnikoff took a bit of infected tissue and placed it under the skin of a mouse or rabbit, and, on taking it out for examination in a few hours, found that it had been surrounded by the wandering cells of the animal, and many of the bacilli had been taken up, and appeared to be undergoing a process of digestion in their interior. Of course, the bacilli may become so numerous as to kill the ameboid cells, and thus destroy the animal itself. In all such cases you may be consoled that you have not selected the indicated remedy.

In typhus fever there are certain stages of the disease in which great numbers of spirilla are found in the blood. We would naturally expect, from what has been said, that the white corpuscles would be found to contain them, but, curiously enough, this is seldom the case. Metschnikoff recognized in this fact a serious objection to the theory which he had advanced, so he inoculated an ape with the spirilla, and they soon appeared in the blood. Some time after, however, they became less numerous, and finally disappeared altogether. This led him to believe or suspect they had collected in some other part of the body, so he killed the ape, and found that the ameboid cells of the spleen were filled with the missing spirilla. This fact throws some light on the uncertain function of the spleen, and at least concludes that it attains to the importance of a therapeutic organ. In erysipelas following inflammation there is a degeneration of tissue, and for some time it has been an unexplained fact that a resorption of these broken-down parts took place.

The disease is caused by the penetration of a streptococcus, and Metschnikoff found that there were two kinds of cells at work, one of which, the smaller, attacked the cocci in the usual manner, while the other concerned itself only in taking up the tissues which had been broken down by necrosis. Osler says that Metschnikoff has likened specific inflammation to a warfare of invading forces represented by micro-organisms, and those who offer resistance by the leucocytes. The news of the enemies' arrival is phoned to headquarters by the vaso-motor nerves and the blood-vessels as an avenue of communication with the threatened region. When the invaders are established they live on the host and scatter injurious substances which they have formed. The active leucocytes make

an attack and endeavor to devour the micro-organisms, and some may lose their life in the fight. Their dead bodies form an accumulation of pus when many are slain; the battle ground is recognized as an abscess. Either force may be victorious, resulting in one case in recovery and in the other in sickness or death. In our bodies then we recognize a standing army of movable cells, which may be quickly concentrated and attack any foreign foe who dares enter the harbors of health. Sutton has made some valuable discoveries in regard to tuberculosis in birds, which he says is more prevalent than in man. He tells us that the bacilli, from whatever place they may have come, get into the alimentary canal and there penetrate its walls. In some cases they may be taken up in the blood-vessels, and getting into the general circulation, may finally be deposited in distant tissues of the body, such as the liver, lungs or brain, and in multiplying cause the death of the animal of course. In the intestinal track they are undoubtedly attacked by the leucocytes, surrounded and killed. Many are killed, while others fuse together and form the "giant cells." These giant cells are powerful antagonists, for one author says as many as fifty bacilli are in one cell. The different varieties of fever, when due to these micro-organisms, depend on the habits of specific bacteria, some being more virulent, while others are slower in attaining maturity, and thus more irritating to the tissues. There is an attractiveness in the Metschnikoff theory, on which, when it became generally known, a great many investigators began to make all kinds of experiments. Many have confirmed the theory, while other equally prominent scientists bitterly oppose it.

Different species of bacteria appear everywhere, but they are not to be dreaded as enemies to mankind, as some species are actually of great benefit by helping to carry out the functions of some organs. Some time ago certain specific micro-organisms were noticed to be present in certain diseases, while they were absent in a normal condition. Dr. Koch, the great German bacteriologist, says there are but three micro-organisms which have been positively proven to be causes of disease, viz., those of anthrax, erysipelas and tuberculosis. Others would add a few more, such as glanders, cholera, pneumonia, etc., but the number is now surprisingly small. Some believe that certain disease may be caused by a combination of many kinds of micro-organism. The opinion seems to be growing that under favorable conditions, ordinarily harmless or aseptic forms may change into those which are harmful or pathogenic.

It is apparent from what has been said, that in spite of these ob-

jections many facts remain which are of great importance to the study of pathology and therapeutics. It will be of value to the medical practitioner to keep himself posted on the progress of this work.

It is often asked by those who are not informed, what practical results are obtained by the great search for unknown facts that is being made in the so-called natural sciences. If the knowledge obtained from microscopical experiments cannot be directly applied to the relief of human suffering, it is probable that a foundation has been laid upon which it may be possible to build up methods for operation against the common enemy.

Has Suggestion a Legitimate Place in Therapeutics?

By Nancy B. Sherman, Kalamazoo, Mich.

> In the great mystery which round us lies,
> The wisest is a fool, the fool heaven-helped is wise.
>
> *Whittier.*

I presume it has not entered the mind of any, even of a disciple of Hahnemann, to believe that the millennium of medical lore or medical aids has arrived, though we are sometimes assured that medicine is, and should remain, a statement of the verifiable. Crude ideas, chimerical nonsense and moonshine ought have no place before a body like the American Institute of Homœopathy, and yet I shall no doubt be liable to conviction under each head. Our latent resources and powers are made active by our reception of hints, of suggestions.

If the dean of an Illinois medical college can say, "It is preposterous to deny the profound influence of mental suggestion upon the bodily functions, and that doctor is a fool who does not avail himself of this means of treating his patients, for the success of Homœopathy shows that men may practice upon an exclusively suggestive system, though the scarcity of purely limited Homœopaths shows that suggestion also has its limitations" (at least the sapient dean, by admitting our success, has damned us with no faint praise), and he says further, "To avoid sending from our college a lot of poor fellows to be driven into poor-houses by these Christian scientists, faith curists and the like, we have created a lectureship on psychotherapy and propose to make them more proficient in all these isms than their professional exponents themselves," surely we may take so broad a hint, and consider the subject at least tentatively.

The Homœopath uses his law of *similia* to advantage, because he has made great strides in verification of the pathogenesy of his drugs, yet he can make no clearer statement of how his law works its subtle and sometimes elusive mysteries, than can these empirical scientists. We are not at all settled as to the best methods of this investigation, of the dosage, the potency, or even of the order of approaching such investigation. Our provings on that improba-

ble anomaly, a perfectly healthy person, give no hint as to the condition which invites or makes possible, by its morbific influence, a *similia* of the drug-picture induced by such provings (may it not be that our apathy, our *passivity*, is that condition which allows some environment to gain potential sway, and induce a consequent lack of harmony?). We need not fear that the truth we have will be imperilled by the consideration of any other. The more universal a law, the less timidity need be displayed concerning its investigation, and without fear of its subverting other laws. Truth remains truth, no matter how we theorize, though the well be so deep that reflections from our peeping and peering are sometimes mistaken for new discoveries. The world of our "regular" friends seems to be reeling through an optimistic atmosphere, and their perennial freshness concerning new methods, new remedies, and scientific comets in general, is surprising to one who knows there is a restful basic law whereby to test such claimants, for it is not rare that it enables us to feel as positive concerning the result before giving a remedy as afterward; yet our first hint of clinical values is most frequently received through empiricism of some sort. It is fully ten years since opportunity and curiosity combined to give me especial privileges for observing the work and to familiarize myself with the teachings of the Eddy faction of scientists. Always interested in psychological problems, I have since then given the closest attention and unbiased judgment, so far as is possible from the standpoint of a nonconformist. Other varieties, with their opposing theories and methods, have been investigated and familiarized, that misconception and misrepresentation might be avoided. I hope it may not be like the flaunting of the scarlet flag of the matador, to acknowledge that many permanent cures have been observed, also numerous persons to become so metamorphosed and so serenely unconscious of all sorts of personal discomfort, that their happiness appears to be health, and many so-called cures have been observed to be but very temporary, while the obverse of this favorable comment can be learned from any doctor whose line of fate has been crossed by these pseudo-scientists.

Hypnotic suggestion furnished a hypothetical solution which was not altogether satisfactory. Two years since my attention was called to Thomas J. Hudson's *Laws of Psychic Phenomena*. His solution of healing by suggestion seems to provide the missing theoretical link, which accords with methods used. Without finding it profitable or necessary to consider his tentative postulates, to account for any

and all sorts of psychic phenomena, I zealously set myself to the task of refuting or confirming his clinical position. Opportunities abounded, for occult Boston herself is so far emulated by Kalamazoo, that we might find it of professional interest to consider whether the asylum for the insane on its hillside was a factor or a product of this environment. I have yet found no practical exception to his formulated hypothesis and classified laws, and further, I believe they furnish a logical reason and a practical method for their therapeutic use, with indication of their limitation, which limitation might be summed up to be, whenever it is adverse to the natural, instinctive, automatic laws of self-preservation, and that normal equilibrium which will not allow one to become the puppet of disordered forces.

We have carefully considered the criticism of learned professors of psychology and of others who aver that Hudson's laws are scientifically valueless, the statements unreliable and unverifiable, it would seem, because it was impossible to reconcile them with their preconceived opinion. As so-called scientific endorsement has not in the past been any positive indication of scientific truths, we hope to be pardoned for not being paralyzed by its sometimes adverse attitude. If you are familiar with Hudson's arrangement of law you have already formed an opinion; if you are not, it is only just to yourself to become so, and if you have not previously been familiar with psychic phenomena or subjects, you will prize your opinion most if you defer it to a later date, and as my object is not so much to instruct as to suggest, to attract observation along certain lines, I shall attempt no elaboration of Hudson's views nor to aggregate evidence further than to remark, that while some possible allusion to some one of them may not be obviously logical, a fuller knowledge of them seems to me to be as amenable to the construction of scientific law as the elemental processes of any scientific evolution, so long as we have to judge mainly by its formative demonstrations.

It matters little for our purpose if we have two minds, as he asserts, or not, if he attributes functions correctly. To cite briefly, the first proposition of his hypothesis is that man has two minds—objective and subjective, as he calls them, to indicate their characteristics rather than to disassociate them. The objective mind, or brain activities, takes cognizance of the objective world through the media of the five physical senses; its highest function that of reason, inductive, deductive, synthetic or analytic, it is the natural

governor, the controlling, regulating guide. The subjective mind is the soul, the spirit of man, capable of existence without the body is constantly amenable to control by suggestion; is incapable of any save deductive reason; follows suggestions deductively—like premise, like result. This is the key to enlist its unusual aid, the means to command its resources. It may take cognizance of its environment by means independent of the physical senses, perceive by intuition; is the seat of the emotions, the storehouse of the memory; is that intelligence which makes itself manifest in a hypnotic subject when in a state of somnambulism or clairvoyance, etc.; is a distinct entity; has absolute control of the functions, the conditions, the sensations of the body. These propositions cover the whole domain of psycho-therapeutics, and constitute the basis of all phenomena pertaining thereto. Self-preservation, being the strongest instinct, is consequently a most potent, ever present, constantly operating auto-suggestion, and outside suggestion, directed in lines of harmony with this instinct, gives added potentiality, or even supplies it if it has been diverted; thus a normal condition can be restored with greater ease than an abnormal one can be created. The subjective mind is amenable to the suggestion of its associate objective mind, as is manifestly proper, for it alone has the earned experience which makes it, in more or less degree, able to judge conditions. Faith is required, but need not be of the objective or reasoning faculties. You will realize that faith must be the substance of things hoped for, as St. Paul says, if it is anything, if you will allow your reason to tackle such a muddle as this syllogism underlying all Christian science: "Matter has no existence. Our bodies are composed of matter, therefore our bodies have no existence." It follows logically that disease cannot exist in a non-existent body, and this is denied until the subjective powers act upon the denial and ignore the disease. The faith required for therapeutic purposes is purely a subjective faith and is attainable upon the cessation of active opposition of the objective or reasoning faculties. To get the most marked results it is desirable to have the concurrent faith of both. I believe it to be not only desirable but possible, and a safe measure only when thus reasonably directed and used. We are not ambitious to emulate the exploits of a hypnotic showman, yet we know that our best and only true work has been done whenever we have furnished nature with some denied environment necessary to her secret processes, and by environment I mean all things which enter the body, food, drink, drugs, air, all

things discerned through eye or ear, through sense of touch, occupations, the loves of our heart, our thought, the thought of others, the heredities of ages, circumstance of latitude and longitude, all things, however slight, which surround or enter into our conscious existence in its entirety, after which it is never again quite the same. What is suggestion? The dictionary says, the imparting or exciting of a notion or idea by an indirect or unobtrusive way, by impulse induced by another person. Negative suggestion is defined as that by which the voluntary control of one's powers is more or less suppressed, which is made yet clearer by the definition of suggestibility as readiness to believe or agree with, without reflection, compliance of mind and will.

This is why these disciples of the unknown, of the subjective, listen to lectures of negation, submit to drills of the occult, lie on the back, rise on the toes, wave the hands, fix the gaze upward, revolve mysteriously, address the four points of the compass superstitiously, sing dreamily, sit in the silence, hold a thought-word; in short, to become amenable to negative suggestion, which means to be able to suppress, in more or less degree, the voluntary control of their powers, to become auto-hypnotized at will by auto-suggestion. In hypnotism it is an essential characteristic that the higher cerebral activities shall become suspended. Describe hypnotism as you may, the fact is a condition of a more or less perfect abeyance of our faculty of reasoning, of our will-power, which in no equal degree affects our ganglionic or vegetative processes, our life functions, unless especial effort has been made in this direction by extraordinary suggestion. Many hypnotists have recently incorporated in their repertoire the suspension of hunger, thirst, action of the bowels for many days, and an inco-ordination of vaso-motor control startling in its results. To what is suggestion addressed? Certainly not to the ordinary sources of perception, and yet to something capable of seizing upon it and further acting upon the suggestion, though only in a deductive way. We are not slow to recognize the suggestion of locality, of personality. A physician's manner has a therapeutic value, but this is not direct suggestion. When we instruct a patient suffering from constipation to invite habit, and to give previous thought and expectation of stool at a certain hour (and experience has led me into a habit of adding that no function is more amenable to mental control than the bowel), from what ganglionic centre do we expect assistance? The patient was as fully conscious of the necessities of the condition before as

now, and had given thought with desire, as is evidenced by seeking aid, but heretofore no direct suggestion had been made to the proper control of the bowel, to the solar plexus—the sympathetic brain. It may be argued that the impulse was sent *via* the encephalic brain; but we have a hint that it is not dependent upon it altogether in the late record of a child born, and living for several hours without cerebrum or cerebellum; and the fact that a frog will continue to exist from which these supposed essentials have been removed, would seem to corroborate their secondary position as regards life only.

The requirements of healing seem to be suggestion and environment, and the sympathetic nervous system, the respondent, and the prime adjuster of vital issues.

The unusual attention which orificial surgery has attracted to the sympathetic nervous system has developed a remarkable degree of unanimity, and an aggregation of evidence concerning its functions. That it has not been taken sufficiently into account is very plain. Dr. Pratt has reason to be enthusiastic when he can trace the dire result of malnutrition to the pinching of nerve filaments of the sympathetic, and demonstrate his power to abolish it. Byron Robinson has made the profession at large his debtor for his careful dissections and tracings of its wondrous reflexes adjusting and subserving every emotional and vital interest. Hilton's work was marvellous, but Robinson's is more so. That some mechanical irritant can set up such far-reaching influence does not seem to surprise beyond belief, because it hints of something material that might be seen and touched, but that a thought, expressed or otherwise, should make an equally profound impression on the same nerve centres seems diaphanous. Yet subjective symptoms are always more significant than objective, as indicating the more profound impress, a fact too often overlooked and a reason why so many times the indicated remedy is not found, and why empiricism and proprietary scientific formulas are so often drawn upon. Yet we see the pupil of the eye dilate, the cheek flush in response to a look, or the cheek pale, and the whole facial expression suddenly become that of fear and horror, and what measurable, mechanical thing has so stimulated a nerve centre of the great sympathetic beyond the inhibitory power of the cerebro-spinal nerves? Is the excitement of an emotion which kills or cures, a tangible something which may be wielded by another individualized personality or by your own? No doubt at all that any or every energy is an entity,

whether it be the one-millionth potency of a once tangible drug, or the thought which wings its flight with nothing comparable.

It would illy become a Hahnemannian to deny the infinite divisibility of matter, and the late revelations concerning light and electricity speak warningly to any one who would deny entity to thought or emotion. There is no need to reiterate denials of the existence of disease, of pain with its beneficent, guiding significance, the danger signal, the flag hoisted to attract our observation to the crossings over which experience must travel to enlarge. If assimilation and co-ordination of function be the work of the sympathetic nervous system we are never without its helpful effort and tendency to aid us. And if we as a school are correct as to our claim of working in line with the natural effort to restore normal conditions, if we believe that symptomatic manifestations are the expression of nature's effort to restore normal healthfulness, to clean the house beautiful, to flush the sewers, to burn the rubbish, to tense or loosen a screw here or there, to rest an overburdened organ, we may most conscientiously recognize in suggestion a polychrest, not to be outranked and in line with the inevitable trend of the higher work of physicians, that of prevention of disease, the ounce of prevention *par excellence*, without taint of death's decomposition, with a rational basis whose very rationality will remove its undoubted, dangerous tendency to degeneracy, to delusion, when viewed through the mysticism of ignorance, or allowed to run riot without the control of reason and the guide of a reasonable experience.

The law of *similia* has nothing to lose, no need of modification if its power is dynamic or subjective, as we have allowed. Potencies have found a friend and a defence. Surgery has nothing to concede and much to gain. Adjuvants, sanitation, asepsis are not denied, or interfered with. The armamentarium is simply rounded out, the use of suggestion put upon a reasonable basis, one which recognizes its limitations, its dangers, and its abuses, as is necessary of any therapeutic measure in the hands of a true and honest scientist.

The prime genetic error has been, that the cerebro-spinal system, the encephalic brain, generates or originates vital force, instead of its being the intricate transmitter of reflexes whose sum total is an educational experience, an evolution resulting in personality, or those differences of mind and body which constitute individualism, which by right is and ought to be the commander-in-chief of its own marshaled forces.

After death the anatomist may find every known anatomical fact

intact. Electricity gives the stimulus which makes the cerebro-spinal system to a degree responsive, but the sympathetic system remains unconscious of the stimulation; its control, the spirit of man, has relinquished its task, rejected this equipment of forces as useless for further physiological work, or more truly speaking, as having no further need of its physiological work.

Was it a vague conception of this as a truth which originated the idea of the abdominal brain—the solar plexus—being the seat of the soul?

A present difficulty and chief objection to the use of suggestion is the confusion in the mind of patient and physician as to its legitimacy. The reluctance of the one to risk being classed with empirics, the doubt of the other as to its being the genuine article when divested of its supernaturalism.

To the doctor the method of procedure of administration seems to imperil more than the furtive administration of a drug of which he knows nothing, or of a serum or organic extract, of which he ought to know better.

His task is difficult; he must learn two things, either by experience or of the scientist. First, that therapeutic suggestion acts only deductively; when a patient appeals to a scientist his objections are already so far *nil* that the remnant only serves to deepen his illusion or strengthen his faith. I once asked a noted scientist to tell me the one thing I could not comprehend, which was, how he dared to talk so much ineffable bosh without knowing the calibre of his patient. He said, with a twinkle in his eye, but honestly, I believe, "I know because they climb the stairs that lead to my office."

The doctor consorting with reason, because he knows that malnutrition inevitably follows mal-adjustment or inco-ordination of associated functions, has to strengthen, educate the brain cortex—the objective mind—and train it to give intelligent direction or suggestion to the subjective mind without losing its equilibrium. He may assert, from his vantage height, his knowledge of the worth and power of the law of suggestion, but when he attempts to explain, he will be no more intelligible than the scientist, and have the disadvantage of having challenged at the outset the activities of the objective faculties, and precipitated the argument fatal to the required passivity. The lessons and teachings of the average scientist amount to a cultivation of suggestibility which divorces from reason and trains the objective mind to concentrate upon one

suggestion, and this is what the physician must train himself and his patient to do if he would use suggestion to any purpose. When the case is one especially amenable to such therapy, the suggestibility must be increased, though it be necessary to require the temporary absence of the family and numerous attendants, unless he can hypnotize in job lots, an impracticable but at many times the most desirable thing to do, and one which would infinitely curtail a doctor's perplexities.

It will require no more tact than is required to deal with insanity, hysteria and associate diseases. To assure the patient of the benefits to be gained by the law of mental suggestion, as an adjuvant, which in justice to self-interest should induce them to accept, and it is not difficult to make it clear, that as cause must always precede the effect, that positive assertion that they are better, or well, or the denial that they are sick, is but to lend themselves unreservedly to a means to gain an end. The energy gained by it, be it much or little, is helpful, and when recognized by the profession, and not used like a hoodoo or a fetich, must soon take a legitimate place, without usurping that of other environment, whose infinite variety would otherwise seem purposeless. And if shorn of a multiplicity of followers, there will be a satisfaction in knowing that credulity and avoidable ignorance have also vanished in their wake.

The Effect of Locality on Typhoid Fever.

By J. C. Fahnestock, M.D., Piqua, Ohio.

Before entering upon this subject, allow me to thank the many physicians who have so kindly and promptly assisted me in this work of ascertaining facts concerning the above subject.

No doubt most of you have often been astonished and greatly surprised when reading of the many remedies which are used in different parts of the country, and furthermore taxing your imagination how such drugs could be indicated.

Furthermore, I wished to ascertain, if possible, symptoms of typical cases that were observed in certain localities. Also, if the nomenclature "typho-malaria" was recognized and symptoms of the same.

Typhoid fever is protean in its nature, and from close observations of the many cases reported from the extreme East to the far West, I believe that in this disease, as in some others, we find more non-typical than typical cases.

Now, if I should make any misstatements in reference to this disease in certain localities, I hope you will be in readiness to correct the statements and defend your position on the subject.

There is one great fault to be avoided that has been noticed in prescribing, and that is the great tendency of prescribing too much for the pathological conditions, to the great neglect of the individual shading, which forms the only guide for the selection of the drug.

In the extreme Eastern States we find scarcely any typhoid or malarial cases, only those that are imported.

In the State of New Jersey the physicians recognize both the typhoid and the typho-malarial fevers—ætiologically different. The typhoid arising from its own specific poison, the typho-malarial arising from malarial poisoning. They are similar to those which occur in many other localities.

In New York and Connecticut typhoid fever is recognized; so too is intermittent fever, and in the mingling of the two, a great many of the practitioners term it "typho-malaria." All along the eastern

coast, from New York down to Florida, typhoid and typho-malaria exist, and are not materially different from those cases described in our text-book. In a number of the Southern States I am informed that typhoid fever does not exist in a typical manner, but remittent fevers exist in which the typhoid conditions develop to a marked degree, but these usually yield more promptly to treatment than similar cases in the North.

In Kentucky, Tennessee, Alabama, etc., the fevers that are called by many typhoid, are in reality typho-malaria. They do not have the typhoid fever curves, beginning with a temperature of 103° or 104°, which during the first week may run over 105° in the evenings. It is a remittent fever, being always higher in the evening, but the frequent occurrence of the intestinal hæmorrhages, glandular enlargements and of the abdominal eruption, prove that it has a typhoid element. And possibly this malarial complication may reduce its severity, hence reducing the death-rate.

In the South and Southwestern States the true enteric fever is rather an uncommon disease, but when it does occur, the cases are typical as described in the text-books.

Possibly one great reason why this is noticed is that they use overground cisterns almost exclusively—at least in a great many districts—as a source of supply for drinking water, thus avoiding contamination through that source. Also in some of the cities they have no underground sewerage system, thus avoiding the piping of foul gases into their houses. The people live in the open air, or in houses thrown open to the air nearly all the year around. Here is where that mongrel typho-malaria is more common and is very erratic in its course, very often beginning as an intermittent, changing to a continued fever with the development of the typhoid symptoms. If not under control by the end of the second week, symptoms are the usual ones found in true enteric fever, *i.e.*, diarrhœa, hæmorrhage of the bowels, tympanitis, gurgling and sensitiveness on deep pressure upon the ileo-cæcal region, swollen spleen, muttering delirium, coma vigil, epistaxis, bronchial cough, dry tongue, at first coated, later, the characteristic deep red streak down the centre, in fact, all the symptoms peculiar to typhoid, with one single exception, that is the eruption on the abdomen, which is rarely ever present.

In the Middle States there exist cases of typhoid and typho-malaria in every form imaginable and with many complications, hence the great number of remedies used. All through the Rocky

Mountains there exists typhoid fever, also what is termed by many "mountain fever," which is nothing more than a typho-malaria. Typhoid is seldom seen in that climate, but like all acute diseases, is more violent when it does occur, I am informed, and is said to be caused by the high altitude, and right here I might mention the fact that Gelsemium is considered a great remedy, covering excessive heart-action produced by the altitude.

There is a disputed question among the physicians throughout the Rocky Mountain territory, whether the fever there encountered is typhoid or typho-malaria, which is called "mountain fever."

This fever is defined by good authority to be a distinct type of disease, and peculiar to elevated regions of the Rocky Mountains, and is seen only at an elevation of 7000 feet and upwards. Other authorities equally as good say that it is simply a typho-malaria fever. This so-called mountain fever was discovered by the pioneer hunters and miners, and is yet believed by a great many of the laity, also by many physicians, to be the result of some occult mountain influence.

There does not seem to be any constant pathological lesions, although it has caused a great many deaths, and its lesions have been diligently searched for in many autopsies.

This disease has also been classed by many as a simple continued fever. In this disease the onset may be very sudden, with chill and febrile reactions, and on the other hand it may come on very gradual, with days of languor, no appetite, dulness in the head, muscular pains and restless sleep. This fever arises rapidly and does not have a regular typhoid curve.

This fever also takes on symptoms of hepatic derangement, with gastric disturbances and symptoms, so far as I can learn, similar to that which is termed in some localities as "bilious fever."

Among the laboring class, those that are exposed to the rays of the sun, when taken with this disease, have a higher range of fever and more active cerebral symptoms and a cleaner and redder tongue than those not so exposed.

There have been noticed in a great many of these cases the rose-colored spots of typhoid fever. Post-mortems have revealed the intestinal lesions that are found in genuine typhoid cases, hence some of the best physicians in those localities are fully convinced that there may be a mixing of either typhoid, malarial, intermittent or remittent.

One authority thus puts it—that after "seven years of search

for this chameleon of diseases in a locality where tradition holds it to be a necessary feature of acclimatization here, failed to convince me of the individuality of mountain fever; in my opinion it is simply the febrile manifestation of various diseased conditions capable of classification only as belonging to other diseases."

Along the Pacific Slope typhoid and associated fevers do not exist to any great extent, and seem to be milder in character than those observed in other localities.

In that part of the United States we call the "Northwest," fevers do not occur very frequently, and are mild in character, and death seldom occurs. I am fully aware that not a few physicians make the statement that they do not encounter typhoid fever, only in such cases as are produced by drugging.

There was quite awhile that I objected to the nomenclature "typho-malaria," and positively classed those fevers either typhoid or malaria. But when I met with several cases that were typho-malaria, I was obliged to give it up.

In reference to the remedies, I am unable to give you anything new, as so many prescribe a regular routine treatment, a text-book series, while, on the other hand, I am proud to state that a goodly number individualize their cases, and hence the name makes little or no difference to them.

Some Errors Which May be Corrected.

By J. M. Schley, M.D., New York, N. Y.

It is more than twenty-two years since I gave in my allegiance to the law of similia, but though I joined the school of the minority I reserved for myself the right and privilege to discriminate—as far as my intellect would allow—of what was trustworthy and based on fact, and to accept that frankly and without hesitation. What other theories existed, clashing with other trains of thoughtful knowledge and seeming to exist as theories only, I put on the shelf and labeled "to be studied carefully over and over again before they can be accepted and put in practice." After twenty-two years of a life spent most entirely in seeking true medical light, one is allowed perhaps to speak his thoughts aloud on the imperfection or imperfections of a medical law—if such exist.

There is no doubt that Homœopathy comes as near a perfected law as it is possible for us to attain to. In the next century may not a more perfected system be presented which will be accepted by all men? I maintain that if Hahnemann's law had been the perfect system of medicine which he almost claimed it to be, its universal employment and adoption would have been accomplished within a decade. Had it been nearly a perfected system, many of the failures in curing disease laid at the door of the strict Homœopath would not occur.

I will not tire you by my own views of the non-acceptance of our dogmas by the great mass of physicians and laymen, but will limit my observations to *three* great faults—which, unless remedied and better interpreted, will forever remain a stumbling-block to our progress in the medical and public favor.

I would speak I., of our utter neglect of pathological anatomy; II., of the indifference of many of our school in making a diagnosis, and III., of the wild ideas possessed by some as to the treatment of skin affections.

The successful practice of medicine depends, as truly stated, on I., pathology; II., diagnosis; III., materia medica. The Homœopathist pure and simple puts materia medica at the head, and you can put the other two wherever you see fit.

There can be no doubt in my mind as to the great wrong done to our side by the submersion of everything to our therapeutics.

When men standing well up near the pinnacle of the profession, holding exalted public and private positions, teachers in colleges, will tell you honestly that they can cure an ulcerating hygroma or tuberculous ulceration with a high dilution of silicon, prohibiting all external application or the employment of surgery, and when another will tell you—equal in prominence—that an ulcerated cornea—mind you, an ulcerated cornea—has been cured in *two* days, and this ulceration, mind you, was in the midst of its virulence, and still another brings forth a case of spermatorrhœa where the sperma have *no tails*—and he proposed to find a remedy (?) to make that tail grow, one must stand aghast if not with shame, surely with amazement, at the wonders some physicians can wring from medicines. And still another cures stricturæ urethræ with a high potency—he has seen such things done more than once. Now it seems to me such untimely remarks, maladroit observations—*post hoc propter hoc* conditions—are caused by our want of knowledge of the usual pathological changes. It is very true, we have little or no opportunity to study pathological-anatomy by post-mortems, but just as assuredly as the average general practitioner of medicine knows the different stages of croupous pneumonia and its accompanying changing condition, whether this be obtained by actual practice or book study, so, most assuredly, our mind may wander with approximate precision over other maladies, where there is a distinctive, gradual, destructive process, and another stage, sometimes equally as long, if not longer, in reconstruction. It is a profound knowledge of recognizing the changes which have occurred and may likely occur, if unchecked, which makes the successful student of diseases the benefactor to his fellow-sufferers and the curer of most maladies. Helas! the true and quick recognition of disease with its various injustices, often makes the doctor of medicine a therapeutic nihilist.

And until we find our facilities large and sufficient enough to meet our wants in hospital and private institutions, to study up with scrutiny morbid changes, we must for ever take a second place in this never-ending race. From my own experience, from my own studies and from my own observations, I would state that the learning and wisdom in medicine of the best English authorities lie in their profound acceptance of the fact, that a minute storing in the brain-thought of all pathological changes is at the bottom of *all*

medical science. Without it no man can make the practitioner or surgeon that he should be. The diagnosis of disease is so intimately bound up in pathology, that to know the one gives us the other, and if we leave this first consideration and turn to our third one, we find just as much to grumble over and just as much to be dissatisfied with as the first.

The diagnosis of skin affections is by no means easy, and though we may satisfy ourselves as to the nature of this or that patient's condition, we are still too far away to find a cause and a remedy.

It has been said so often in our gatherings that Hahnemann would surely have modified or changed his pathological views (if he had any), if he had lived in our time, that it seems a trite clause. I feel quite assured that a man with his mental balance, with his perceptions, with his philosophical ability—that he would have looked at things in a far different light from the then existing state of pathology.

I presume to take the liberty to suggest that there are things which we cannot even with our present knowledge comprehend as theories and sometimes facts, and which are being thrown at us so rapidly that we cannot commence to digest or understand them, and through perfected instruments of observation reason out and assimilate perfectly—that we put them aside or ignore them entirely in our daily prescriptions. We sometimes in a mood of inquiry ask ourselves how many cases of scabies, how many cases of favus, how many cases of pityriasis versicolor have been *cured* by the appropriate (?) Homœopathic remedy only. And yet such cures are claimed in our literature! We have heard men say in meetings and on the teacher's rostrum, that parasites and the acarus scabia seldom, *if ever*, make their permanent home on a healthy skin, and that the acarus soon migrates to more congenial and slovenly surroundings.

One is almost inclined in a jocose mood to inquire if any of these healthy gentlemen have put a pair—man and wife—of these little acari upon their own cleanly soil, and watched if they did not multiply and bring forth fruit of their own kind bountifully. It seems to me such an inquiry is very pertinent at this juncture.

It has been my *pleasant* duty to observe that these dermatologists who believe thoroughly in Homœopathy, as far as it goes, in this special field, and who accept only the *little* that Hahnemann has correctly noticed in his psora theory, are the most enlightened, most accurate in diagnosis, and stand neck and shoulders above the poor

diagnostician, who is sometimes a synonym for the purist in therapeutics. Until such cutaneous theories—and they are nothing else, as they are based on nothing with a foundation—are modified or *discarded* in open court, we shall make no progress, and, as in the study of pathology and pathological anatomy, we shall occupy no place among tbe better-thinking and scientific men in and out of our school. And it seems to me that these persons who have cherished and do cherish such ambiguities stick to it, you might say, purely in a rebellious and antagonistic state of mind. They bring forward no proof of their correctness, but rely upon the teachings of a master who, like many of us, may have at times not been infallible. These and other practices probably must cease if we are to go forward and show by our understanding and practical results that we are worthy of the confidence of the non-medical world. And when we come to our last word we must not find fault with the possible cause of our going astray, for without the one we would not have had the other. I allude to our materia medica. Its praise has been sung so often, its deficiencies betoned, the difficulty of acquiring it harped upon, and one great systematic and uniform perfected plan of a universal teaching of it *demanded*, that I will not enlarge upon it; but it seems to me, unless a uniform method of teaching it is arrived at soon, that more and more men of our school must, of necessity, drop into a circle of eclecticism.

These and many other points may be dwelt upon advantageously —not for our immediate and passing attention only—but for a long and searching study into our defective system.

We must be somewhat introspective; we must eradicate our own faults before we would correct in another those no larger than our own.

We should cut away from theories and isms that no one understands and can explain.

I say nothing against any man's Homœopathy if he prescribe low or high, but he should keep close to the rules which guide when he does claim to prescribe according to the law of simile.

I claim that the neglect of pathology and pathological anatomy is misleading and unjust; I claim that the teaching of the uselessness of diagnosis and the teaching of the all-sufficiency of the drug is almost criminal; and I claim, further, that the cure of parasitic skin diseases (as credited by some) by the administration of drugs (internally only) is incorrect.

Such doctrines and teachings should be abolished from among us.

Now, how much will we, as a body or individually, contribute towards this progress in our school, which, from my point of view, I ask for? Who can tell?

But this much, at least, is certain if you agree with me—that you are bound by plain duty to do your best to contribute to it largely, even as it is every man's duty to do all the good he can by *all* the means that can fairly come within his power, "and never let us forget that wherever *power* is, there is duty, and, wherever duty, a great responsibility."

And if, following these maxims to our utmost ability, honor and success come to us, aided by perseverance and steadfastness of purpose, we must not permit the wreath to be placed upon our shoulders, but, removing it quietly and modestly, deposit it upon the head of the discoverer of our law of cure, without whom we should not be assembled here. We are simply the promulgators of his teachings and the good coming therefrom, and the homage is due him.

Diagnosis and Treatment of Injuries of the Cervical Vertebræ.

By C. B. Kinyon, M.D., Rock Island, Ill.

I presume it is true in the experience of us all that "it never rains, but it pours." In other words, we have all had several cases in succession that were almost identical in character.

It fell to my lot to have six cases of severe injury of the cervical vertebræ during the years 1894 and 1895.

Some of these I saw at the time of the injury or very soon after. Others came to me after going through many hands.

I found so little said about the management of these cases in the standard works, and such a diversity of opinions among good practitioners of all schools as to the diagnosis and treatment, that the idea occurred to me that a few words giving my experience, together with a few well-established principles, as laid down by the highest authorities in the scanty references to this subject, found in their writings here and there, might be of value.

I prefer to bring what I have to say to this bureau, because a large percentage of these cases are first seen by the family physician, and success depends altogether upon a correct diagnosis and the institution of proper treatment at the time of the accident.

I will report but one case in full, and this case is selected because of the severity of the injury and because of the long and interesting history, both as regards the course of the disease and the treatment of the several attendants. All in all, it was to me the most interesting and instructive case I have ever treated.

I was called to Moline to see this case on the 25th of July, 1895. The patient was a lady about 42 years of age.

Before the injury she weighed 190 pounds. Was well nourished and the perfect picture of health. When I first saw her she was resting in bed, and did not look to be very sick. She simply had a tired, worn look, with an anxious expression of the face.

In reply to my question as to how and where she was sick, she replied that she was not sick at all as long as she rested perfectly quiet and was let alone, but the least jar of the bed or floor, or the slightest movement of the head, caused severe pain in the back and

right side of the head and neck. Her chin was turned sharply to the left and rested almost against the clavicle. It was impossible for her to move the head because of stiffness, weakness and intense pain.

As I placed my hand upon the nape of the neck, where she said the most severe pain was located, I was truly appalled. For even through the large amount of adipose and muscular tissue I felt a very prominent bony protuberance, exactly in the region of the axis, or second cervical vertebra, and just above this a corresponding depression.

Of course the first thing that came to my mind was a dislocation. But how could this be possible and no one have found it out up to this time? The messenger who summoned me simply said that the lady had been in bed five weeks, and gave no particulars.

Then, again, there was and had been no paralysis. Little by little, and after several visits, I obtained the following history:

Five weeks before I first saw her she had bought a new wheel in Rock Island. It was a warm day, and in riding home on the wheel, a distance of four miles, she became thoroughly overheated. While riding she had a light wrap around her neck and shoulders. When she reached home, in the cool of the evening, she took off the wrap, sat down on the porch and cooled off very rapidly. As might be expected she awoke in the morning with a severe cold. Her neck and shoulders were so lame that she was forced to keep her bed for a few days.

On the third or fourth day, while still very lame and sore, she felt that she must try the new wheel again, even if her neck was stiff and painful. The muscles of one side were more lame than the other, so that she was obliged to hold the head to one side while riding. With her head in this position she was riding rapidly down grade when her dress caught in one of the wheels. She was paying attention to her dress when the front wheel struck against the stone curbing with such force as to throw her violently on the sidewalk. At the time of the accident she heard a noise in the right ear as loud as the report of a cannon. After she had collected her senses she was unable to hold her head up, but by supporting it with both hands she walked a few feet to a friend's house, where she rested awhile and then they helped her home, a distance of four blocks. She took her bed, from which she did not rise again, and died seven weeks later. I wish at this point to mention a fact emphasized by Hilton, which you will all see is especially applicable to this case.

"Diseases of the joints of the spine are frequently due to exercise persevered in after fatigue."

On the day of the accident, the pain in the right occipital region was terrible. Morphine was given hypodermically for the first two or three weeks. Of course the bromides were freely given with the opiates. Several doctors saw the case during the first five weeks. No two gave the same diagnosis, and not one of them even hinted at the real cause of the trouble. For two or three weeks there was high fever. I do not know the exact temperature.

The neck was hot and swollen, especially on the right side. The regular family physician diagnosed rheumatism, and treated her accordingly. As all remedies failed to give relief, except Morphine when crowded to its full limit, strong counter-irritants were applied. He also advised passive motion of the head. This of course only made matters worse and they were forced to desist. As a "dernier ressort" the galvanic current was applied, and it nearly drove the patient wild with pain. But in spite of this, the doctor insisted upon its use, until the patient and her husband absolutely refused to have it used again.

You can scarcely conceive how all this treatment aggravated the trouble. This was during the fourth week. For the next few days many doctors were called and many suggestions made, but all to no purpose except to torture the patient. This treatment of necessity made the patient weaker. At the end of the fifth week they called me, and when I told them that the neck was broken they could not believe me. In fact, I could hardly believe my own diagnosis, for the history, symptoms and treatment of the case were so unusual.

I called Dr. P. H. Wessel in counsel, and together we made as thorough an examination as possible under the circumstances, and decided that there was dislocation of some of the upper cervical vertebræ, with probable rupture of ligaments and possibly a fracture of some of the bones. We could detect the crepitus. The motion of the head was abnormally free. The cervical vertebræ and head could readily be put in place, but the pain was then so intense that the normal position could not be maintained. We tried extension and every means at our command, but the bones and all other tissues were so inflamed that we could do nothing but let them assume the most comfortable position, and make the patient as easy as possible and watch developments.

All opiates were discontinued, and internal Homœopathic remedies controlled the swelling and pain.

On the evening of the forty-sixth day, ten days after I saw her, she became restless, and during the night her speech became very indistinct. This trouble gradually increased, and in a few hours the muscles of deglutition were embarrassed. The paralysis gradually involved all the important cervical nerves and the medulla. She became very restless. Heart and lungs began to work slowly and irregularly. On the fiftieth day she rolled her body over in bed, and as she could not move the head, the twisting of the neck ruptured one of the check ligaments of the odontoid, producing such pressure upon the cord as to cause instant death.

At the autopsy we found the following conditions: The right transverse process of the atlas was fractured, so close to the occipito-atloid articulation as to involve that joint in the inflammatory process caused by the injury; the ligaments between the atlas and axis on the right side were ruptured. With these injuries present, the head necessarily rotated sharply to the left, without pressing upon the spinal cord.

The atlas and axis were both highly inflamed. There was also a good deal of inflammation in the muscles and tissues of the right side of the neck, but this has not produced much effusion and infiltration.

To our surprise the substance and the membranes of the cord and brain were in a perfectly normal condition, with the exception that the blood-vessels of a small patch of the arachnoid on the right side of the medulla were congested, and this we thought was due to post-mortem changes. The odontoid process was intact. The right check ligament of this process was ruptured. There were no other tissues injured. At first we were almost inclined to believe that the several physicians had made an inexcusable blunder in not giving the correct diagnosis. But when we took into account the fact that most of them are men eminent in the profession, and at least one of them is the dean and professor of surgery in one of the best medical colleges, we were very loth to criticize them.

Then, again, upon second thought the mistake is not so surprising.

Recollect that the spinal column has ninety-nine joints, all more or less movable, those in the cervical region moving very freely. We are taught to consider injury in this region as more serious than elsewhere, because the close proximity of the medulla oblongata and important nerves makes it a very vital point.

This patient had no paralysis, and as she rested quietly in bed, under the influence of opiates, she had but one symptom indicat-

ing injury to the spinal column, viz., head turned sharply to the left with chin resting on the chest. The patient rested on her left side, so that this deformity did not seem so manifest. One other fact was always present. She kept her left hand under her face and chin, as she said, to hold it steady. As the patient was able to talk freely, and could, and did, answer all questions intelligently, and as she strenuously objected to being touched, not one of the doctors put his hand to the back of the neck to feel the spine of the axis as it protruded posteriorly. Before drawing our conclusions from this case allow me just a word as to what is written upon this subject.

Hilton, in his work entitled *Rest and Pain*, gives several cases and a good deal of sound advice regarding the treatment of these cases.

Ranney, in his books entitled *Medical Anatomy* and *Applied Anatomy of the Nervous System*, gives some valuable points upon the differential diagnosis and treatment of these injuries.

Lidell, in the *International Encyclopedia of Surgery* (Vol. iv.), gives a full and clear course upon the diagnosis and treatment of all forms of injury of the spine.

In this article the author speaks of the work of Prof. Ashhurst along this line, wherein he has tabulated 394 cases. The results as given in these tables are very encouraging indeed.

Bryant, of New York, has written in the journals upon this subject in his usual instructive manner.

Aside from these but very little has been written upon this class of cases. The occipito-atloid articulation is quite movable, but has a large joint surface, and the ligaments are firm and strong. It is very seldom displaced or injured, except when one of the transverse processes is first broken.

This is liable to happen because of their great length, giving such leverage. When this fracture does occur the strain is on the occipito-atloid ligaments, and they usually give way. This is what took place in the case I have reported.

The head could be, and in this case was, rotated to the left and strongly flexed, and yet there was not pressure enough upon the cord to embarrass its functions.

The breaking of this bone was what the patient spoke of as sounding like a cannon. Another point in this case it is well to notice, as it contributed to the final result.

Her head was turned to one side watching her dress in the wheel. This brought the full force of the sudden and forcible striking

against the curbstone directly in the right line to exert all its power upon the transverse process, thus making its fracture almost a certainty.

When the bone gave way all the strain came upon the atlo-axoid articulation, and these ligaments were severed. This allowed a decided rotary motion of the head. This motion was what saved the transverse ligament and the odontoid. Had either of these been broken death would have been almost instantaneous.

The great freedom of motion in the atlo-axoid joint predisposes that joint to injury. As a consequence this is injured more frequently than the occipito-atloid, or any other joint in the spine. The cervical vertebræ as a whole are more liable to injury than the rest of the spinal column. And, as already stated, their injury is more serious. The breaking of the odontoid process, the rupture of the transverse ligament, or the pulling of the odontoid out of its groove are what causes death in hanging, when it is properly done.

Aside from pressure on the cord, we often have inflammation of the membranes or the cord from injury to the vertebræ and the connecting ligaments. Myelitis may, and often does, supervene, causing death after the lapse of days or weeks, if the case is not properly treated at the outset. The case I have reported was unilateral, as was shown by the autopsy. But this fact was diagnosed by Dr. Wessel and myself during life, by the position of the head and by the pain, especially in the occipital region, being confined to the right side.

Had both sides been injured the pain would have been the same on each side. With both sides as bad as the one side in this case, the result would necessarily have been immediately fatal. It is generally easy to diagnose a case of severe injury to the spine, and with proper care and skill many cases, where the fact of injury is in doubt, can be cleared up. Where there is any doubt in diagnosis, with any probability of injury, it is always best to err on the safe side and give the rest treatment until all symptoms disappear.

The first indication for treatment after an accurate diagnosis has established the fact of injury, is to put the parts in proper position and keep them there. This may require an extension apparatus for the head. Always place a bag of sand on each side of the head and neck, and a small firm pad under the neck to keep the vertebræ in place.

This pad is a very important matter, as there is no other way to keep the bones in their proper position. We are justified in trying

to adjust the parts in all cases where there is still life, as in some seemingly hopeless cases a cure has resulted from well-directed persevering efforts.

There are so many joints and ligaments in the spinal column that it is sometimes impossible to adjust and retain the dislocation and fracture. When properly adjusted they must be retained and kept absolutely quiet for several weeks or months, if need be, to perfect cure.

The cure can be materially hastened by Aconite, Arnica, or any other remedy Homœopathic to the case. The kidneys and bladder must be watched. It is well to look to the condition of the bowels and also to guard against bed sores.

In Ashhurst's tables, 21 out of 29 cases of unilateral dislocation were cured. Of his 356 cases of bilateral dislocation and injury, 40 per cent. were cured, 10 per cent. relieved and life prolonged, while 50 per cent. died from the injuries. This latter table includes injuries to all portions of the spine. In cervical injuries the cures were only 22 per cent. and those benefited 18 per cent. In private practice the results are not as good, or the record would not be as good if all cases were reported.

Doctors do not always report their failures. Of the six cases of cervical injuries I have treated, four were fatal.

This subject is so vast that I can scarcely touch upon even the most salient points in the time at my disposal.

But in conclusion I wish to give you three cases which I have selected from the many instructive cases given by Hilton in his *Rest and Pain*. These are chosen because they cover the most ground and each is a type of many others.

The first is a severe case cured by rest alone.

The second died from lack of sufficient rest.

The third was cured by rest, even after nine months of faulty treatment. The first case was that of a young woman suffering from injury to upper part of the spine. She was almost pulseless, could not swallow; paralysis of arms and legs almost complete; she scarcely breathed at all.

Dr. Hilton saw that life was in imminent danger, and something must be done at once. Believing that the odontoid was pressing upon the cord, for she was propped up in bed with pillows, with the head flexed, resting upon the chest—a position favoring this pressure—he told her she must lie down; she replied with difficulty that that would certainly kill her, as she could not breathe in that position.

Fully realizing the weight of the responsibility resting upon him, Dr. Hilton took her head and shoulders in his arms, had the pillows removed, and slowly placed her on her back. Dr. Hilton was positive that if the head had been allowed to fall forward one-half inch she would have died in an instant. A small pillow was put under the head and a pad under the neck, with a sand-bag to each side of the head. Her sense of suffocation was soon relieved, the paralysis gradually disappeared, and she was kept absolutely in this position for six months. Cautious movements were then allowed for a few months, when she left the hospital cured, with the exception of a bony union between the atlas and axis. Nothing but rest was used in this case.

The second case was a six-year-old child. The conditions were similar to the other. Treatment was the same. After two weeks of rest, the nurse, wishing to show her power of penetration, as well as to please the mother, asked the child to sit up in the bed. She did so, her head fell forward, and she was dead. The autopsy showed that disease, result of injury, existed between the atlas and axis, and both bones were loose and diseased, so that as the head fell forward pressure was produced upon the cord, just below the medulla, at the point of decussation, so that the child was killed instantly, as in pithing animals. In this case both the surgeon and nature were thwarted by the work of the officious nurse.

The third case taken from Hilton is one of disease of the spine affecting the occipital and the cervical nerves and the nerves forming the left axillary plexus. This condition was caused by a blow on the side of the head with a pillow, which wrenched the joints of the three upper cervical vertebræ.

The patient was up and around most of the time for nine months, but she grew gradually worse. At this time Dr. Hilton was called to see her. She then had pains at left side and back of head, pain over the clavicle and shoulder, pain and loss of power in left arm, pain deep in the neck upon pressing the head down upon the spine and on rotating the head. She could not walk because it aggravated all the symptoms. She could not sleep, and her appetite was poor.

The diagnosis was clear, and as rest appeared the only remedy, she was put in bed with the sand-bags and proper pillows, and kept there for three months. By this time the acute symptoms were all gone, and in a few weeks she was cured.

REPORT

OF THE

SECTION IN OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

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Random Thoughts of a Specialist.

BY WM. R. KING, M.D., WASHINGTON, D. C.

THAT the specialist, in matters medical, is a fixture in this nineteenth century is a fact beyond peradventure.

Without entering into a lengthy discussion of the reasons which have led up to this consummation or of the advantage and desirability of such a state of affairs, a few words dealing with this topic may at this time prove apropos.

All progressive, observing and educated physicians have long ago been convinced that it is well nigh impossible for one individual to store up in his cranium all knowledge, medical and surgical, and if it were so, his time would be so fully occupied in the process of storage and in retaining his command of this knowledge that no time would remain in which to put it in practice.

As the knowledge of the science of medicine and surgery, with their collateral branches, has developed and grown, it has become practical and necessary that some of the profession should devote all of their time to the study, development and practice of the art and science of medicine and surgery in some special line or lines. To this end, and for this reason, specialism in medicine has dared to rear its head and demand from the general practitioner the recognition it deserves.

The advantages arising from this development of special departments in medical and surgical practice are several:

1. The advantage to the specialist is apparent and considerable. Presupposing that he has had a thorough general medical education and, better still, an experience covering a term of years in which he has devoted his talents to general prescribing, he then takes up the special investigation of the diseases, medical and surgical, pertaining to his selected specialty and the careful consideration of the best methods for the relief of the same. To this end he partially divorces himself from general medicine and devotes his best time

and talents to the investigation and practice of his specialty. This all goes to make it probable that he will accomplish a better understanding of, and greater familiarity with, diseases and affections of the special organs under consideration. His services to humanity and to the profession will be enhanced along this line and he will feel that he is prepared and able to relieve the general practitioner of much responsibility when the question of diagnosis, prognosis and treatment presents itself in the case of seriously diseased or injured special organs.

2. The advantage to the general practitioner is equally marked. In his daily struggle with disease and death, as represented by so many pathological processes, he must surely feel the advantage of having a skilled specialist to call in consultation or to refer the case to when special organs are involved and when it assumes a gravity requiring all possible skill and special wisdom. I am sure the country doctor and the practitioner in small towns, which will not support a skilled specialist who limits his practice, will appreciate this fact. Occasionally he is obliged to assume grave responsibilities in the treatment of diseases of special organs which present themselves in his practice but seldom and of which he can have at best but a limited knowledge.

3. The advantage to the patient is at once evident. When possible he desires the best advice and attention obtainable in any line. He employs the best doctor as his family physician to look out for the general ailments of himself and his family. He employs the best dentist to look after the proper preservation of his teeth. The best lawyer to manage his legal affairs. Why should he not have command of the best knowledge to study and treat the special ailments of himself and family? It is manifestly a distinct advantage to the patient that he has specialists available who devote all their time, intelligence and skill to the investigation and treatment of these classes of affections.

So much for the advantages derived from the existence of specialties in medicine. For one, I am thoroughly glad that specialists exist and am proud and happy to be enrolled among them. In this I am unlike a certain ex-surgeon-general of the navy, now resident and practicing in Washington, who is on record as saying he cannot imagine why any man should wish to be a specialist and confine himself practically to one or a few branches of medical study and practice; as for him, he wishes to be possessed of all the medical and surgical knowledge extant and to be versed in all the arts

pertaining to the practice of the same. Truly this is a worthy ambition, but how many are there here who have the assurance to imagine themselves capable of all this accomplishment during the brief span of years allotted to man and whilst engaged in active practice.

This section of the Institute represents and includes a combination of specialties. There are some among us who are interested solely in some one of these three important specialties, others in two and many in all three of them.

Great and wonderful strides have been made in mastering a knowledge of the physiology, pathology and treatment of the eye, ear and throat since scientific medical men have in so many instances confined their work and research to these organs.

The ophthalmoscope, for which we are indebted to Helmholtz, has in the last forty years materially aided in correcting much misapprehension regarding certain phenomena in relation to the eye, nerve and brain disease. With it we are enabled to investigate the transparent media of the eye, the retina with its veins and arteries, the choroid behind with its network of anastomosing blood-vessels and the optic nerve at its entrance into the eye. Through this investigation we may not only determine the nature of diseases and injuries confined to the eye or its tunics, but we may obtain indisputable evidence of serious disease of remote organs. The cornea may contain marked evidences of the existence in the system of malarial poison; the retina will not infrequently evidence the presence of serious kidney disease before the presence of morbid material is apparent in the urinary secretion, and the optic nerve will frequently give evidence to the observer of serious intracranial or spinal affections.

Advancement is also apparent along other lines of ophthalmic science. Methods of refraction or adjustment of lenses for defective vision have been greatly improved and made more scientific and accurate. Retinoscopy and keratoscopy, or the shadow tests, have added decided elements of accuracy to this field of ophthalmology. The ophthalmometer of Javal has proven, in the hands of the up-to-date oculist, to be an instrument of considerable precision, and is of great advantage in determining the degree and axis of astigmatism, and is especially useful where, for any good and sufficient reason, it may be undesirable to produce mydriasis or paralysis of the muscle of accommodation for the purpose of accurate measurement.

The perimeter, for making an accurate chart of the field of vision, has proven of untold scientific value in diagnosing many serious affections of the eye and optic tract. With it we may accurately measure the field of vision at intervals, and, by comparing the various records, determine the progress of the case. In pigmentary degeneration of the retina, in scotomata from various causes, in hemeralopia or blindness for the half of objects, it provides a certain method of investigation and a perfect record.

The phorometer of Stevens and various other ingenious instruments devised for measuring the contracting and resisting ability of the various extra-bulbar ocular muscles, have proven of incalculable value to the specialist in determining the character and degree of error or deviation, and to the patient by thus turning the physician's mind toward proper methods of relief for the many miserable reflex symptoms and disorders consequent upon this lack of proper muscular co-ordination. The many skilful investigations in this field have, in the past few years, rendered humanity an untold service, as many stubborn headaches and backaches and reflex stomach disorders—not to mention cases of nervous prostration and even epilepsy—have been entirely and radically cured by the proper correction of some muscular inco-ordination. True, there has been a tendency by some to ride this hobby to death, and much harm has doubtless been done by too great enthusiasm in this field. We are all aware that every case is not a proper one for the knife, yet some of our brethren have been hot advocates for this method of treatment. With time and the consequent exercise of experience and calm judgment, much better results are being accomplished, sometimes by therapeutic measures, at others by careful systematic exercise of the defective muscles and by the application of electricity, and at still others by the skilful use of the surgeon's implements in partial or graded tenotomy or in muscle advancement. The oculist who allows the thought to run away with him that every reflex has its inception in the eye or its appendages, is apt to find himself quite frequently at fault. Every reflex headache is not caused by ocular error, though so many of them are thus caused that a careful investigation should be made of this important little organ in the absence of any accurate data as to the actual cause.

In the field of ophthalmic surgery, gigantic strides have been made. The extremely important operation for the removal of a matured cataract has been so perfected in technique that the percentage of eyes lost is now diminished to a very inconsiderable

number, and likewise the percentage of excellent results has very greatly increased. I might mention, did time permit and were this the proper occasion, a great number of improvements in the methods and mechanism of operative treatment of ophthalmic disorders to show that this branch of surgery has, at least, kept pace with general surgery since special attention has been given to it by its devoted exponents.

It would bode me no good were I to here neglect a consideration of the collateral special subjects of otology and laryngology, in which the members of this section have so great an interest. The field of otology is one wherein, perhaps, the most disappointments are met, at least regarding the alleviation of loss of function. The organ of hearing, by reason of the location of its most vital portions within the bony cavity of the cranium, has been the most difficult to investigate in both health and disease. Its delicate and complicated character has also proven a stumbling-block in the way of the student. Despite these obstacles, the industry, wisdom and skill of the many investigators in this line have produced brilliant results, and our knowledge of the anatomy, physiology and pathology of the human ear and its appendages is constantly becoming more accurate, scientific and complete. In briefly considering some of the more recent advances in this special field, we are confronted, first, by the fact that in this day and generation we see fewer cases of suppurative ear disease as a result of the exanthematous diseases than was formerly the case. This is probably due to two general reasons: first, the general practitioner undoubtedly is now better equipped to recognize and to handle this complication in its incipiency or even to prevent its occurrence in many instances, and, secondly, when it does occur to any marked extent the case is promptly referred to a competent specialist, who is, by reason of this promptness, and because of the improved modern methods of treatment, both local and constitutional, aided in effecting a prompt cure with the least possible damage to the important function of hearing. The importance of considering and examining for intranasal and pharyngeal complications which produce and aggravate ear disease, is now thoroughly understood, and many formerly intractable cases are promptly brought under the curative influence of skilful special treatment.

The comparatively recent description of the operation for removal of the membrana tympani and ossicles, wholly or in part, for the cure of stubborn cases of otorrhœa and for the improvement of hear-

ing in otherwise irremediable cases has proven of incalculable benefit to a class of sufferers who otherwise must have been consigned to the ranks of the incurables. As may well be imagined, this undeniably valuable method of treatment has in many instances been carried too far or been visited upon unsuitable cases, and harm instead of good been done. Here, as in all departments of scientific surgery, time and experience will eventually put on the brakes and the operation will be confined within well-marked lines of limitation.

An honored member of our school and of this body has recently suggested the application of the treatment by digestive ferments of carious disease of the ossicula or of the bony walls of the ear, much after the method already in vogue in the treatment of carious ulceration of a stubborn nature elsewhere. This comparatively simple and painless method of treatment has proven eminently successful in many instances.

The otologist has not been slow to accept and apply the latest and best practical ideas in aseptic and antiseptic surgery, and has kept in the van during the development and perfecting of this important element of surgical technique. The mastoid antrum and cells and the cerebral cavity itself are daily opened and explored for evidences of disease, and many patients are now useful citizens who would otherwise have been numbered among the great majority but for the skill now in our possession for the recognition and cure of these insidious mastoid and cerebral complications of ear disease.

Within the past few years investigators in the field of otacoustics have suggested a practical method for improving the function of hearing and for relieving the distressing tinnitus aurium in many otherwise unrelievable cases. I refer to the idea of aural massage, so called, which consists of the application of massage by one means or another to the sclerosed and thickened membrana tympani and the anchylosed articulations of the ossicles. Whilst this method has by no means proven a universal and never-failing source of relief to this large class of sufferers, it has already, though decidedly unperfected, wakened up otologists throughout the world to the many possibilities it offers, and investigators are at work constantly to determine the exact limit of its sphere of usefulness. While not claiming absolute priority of idea, in this connection, for Homœopathy, it is a well-known fact that the men of our school were the first to recognize the possibilities it presented and have done much to make the idea practical and of value.

The laryngologist and rhinologist has by no means stood still whilst his brother specialists have been striving for the goal of success in their special lines. Advancement all along the line has been the order of the day, and improved methods, mechanism and implements have been the natural result. The *bête noire* of the profession, namely, catarrh of the nose and throat, has received much of his attention, and improved methods, both medical and surgical, have been devised for its relief. Implements for cleansing and stimulating the diseased mucous membranes have been devised and perfected. Operative procedures for the removal of products of the disease, and consequent relief of the distressing symptoms and complications, have been described and proven efficacious.

Laryngeal growths are deftly removed through the agency of skilfully devised instruments. The distressing and disabling affections of the larynx which so often attack vocalists have been carefully studied and now receive effective treatment. The field of electricity has been successfully explored for elements of relief for many throat and nose affections. Nasal catarrh is treated with electricity by various methods; the simple application of the galvanic current, electrolysis by means of submucous application of the electric needle, and the galvanic cautery are all, in the proper place, most useful remedies. In the case of public speakers or singers suffering from a relaxed condition of the laryngeal muscles whose function it is to properly regulate the tension and position of the vocal cords, electricity skilfully applied is of unmeasured utility, especially when used in connection with gentle massage and gymnastics of the affected muscles.

It is but a few years ago that O'Dwyer gave to the medical world the idea of laryngeal intubation for stenosis from any cause, but especially valuable and applicable for the little sufferers from membranous croup and diphtheria. There is no question but that this procedure has increased materially the percentage of recoveries. Improved devices have since been made to simplify the application of the life-saving, air-giving tubes to the windpipe, and the time is not far distant when the procedure will be so simplified that a competent trained nurse will be expected to be able to at least remove the tube when necessary. The main advantage of this operation is that the patient or the parents will submit to it earlier in the disease than they will to tracheotomy with its much-dreaded knife and blood-spilling, thus improving the chances for a successful termination of the case.

So far my thoughts have been allowed to stray at random upon the subject of the general advances made in the field of specialties and the advantages to medicine in general of the existence of specialists in the different departments. It would ill become me to address this section and omit all thought and consideration of the essentially Homœopathic specialist and the advantage he possesses. Just as the surgeon who is rich in the knowledge of the application of Homœopathic therapeutics outranks by so much his Old-School colleague, so the ophthalmologist, otologist and laryngologist, in like manner favored in the matter of therapeutic knowledge, outstrips his fellow specialist.

It is mainly since the development of these specialties that particular attention and thought have been given to special indications for remedies for the relief of diseases affecting the eye, ear and throat on the line of the Homœopathic law. In our school it is particularly important that the specialist and the general practitioner and therapeutist should labor shoulder to shoulder. The specialist, with the knowledge he possesses and the instruments at his hand, can frequently explain and verify symptoms which might otherwise be unexplainable and prove of little value, whilst the therapeutist is of incalculable aid to the specialist in providing, through his provings, remedies for clinical verification. Through such investigators as Dr. Allen, the late Drs. Norton and Farrington, Drs. Angell, Houghton, Winslow and A. B. Norton, we have already had collected most valuable data and special indications for remedies in diseases of the special organs.

There is room and need for both specialist and general practitioner, and one can and should aid the other in obtaining all the information which will tend to alleviate as far as possible the sufferings and repair the loss of functions so valuable as sight and hearing.

Injury of the Crystalline Lens: A Clinical Case.

By D. A. MacLachlan, M.D., Detroit, Mich.

Discussion.

D. A. MacLachlan, M.D., Detroit, Mich.: The paper I intended to present to you is comparatively short, yet I think I prefer very much to just simply state the case in a few brief words, and give way to Dr. Swan, of Chicago, who has some very nice specimens here directly in line with this subject, and which I am sure will interest you much more than the few remarks I make concerning this case.

The case is one in which a small boy, from the explosion of a dynamite cartridge, received a small spicula of cartridge-shell into the lens, a little below the centre of the right eye, the piece being one-sixteenth of an inch in diameter, and then being driven about half-way through the lens, and remaining there. I have never seen a case exactly like this. I watched the case carefully. No very serious infection arose, and I determined to allow it to take its course, thinking that an operation could be made upon it at any time. I examined the fundus at the time of the accident, and nothing abnormal was presented. The boy has since been going to school, using the other eye with impunity, and suffering no inconvenience whatever. I present the case more to draw out discussion. I do not find in the literature many such cases. With your permission I will retire, and ask Dr. Swan to show you the cases he has to present.

C. J. Swan, M.D., Chicago, Ill.: I am sorry if I have prevented you from hearing Dr. McLachlan's paper.

I have here three specimens put up according to Dr. Priestly Smith's method, with a few modifications of my own, and one of them is rather in line with the doctor's paper. This eye was injured six weeks before it was enucleated. It was injured by the breaking of a hoisting cable. The end of the cable struck the boy in the eye and pierced just inside of the nimbus through the cornea, through the cellular body. This set up very severe inflammation, and finally symptoms of sympathetic ophthalmia took place. In this specimen about two-thirds of the lens is here; the rest flowed out into the interior chamber, and was reabsorbed before the enucleation took place. In the treatment of this case I used one thing after another, until I had about exhausted everything I could find in the way of treatment. Among other things I used an injection of the Sublimate solution, one to one thousand. Although it did not save

this eye, the effect was very good for a time, and I was more hopeful than at any other time during the treatment. The reaction was not severe. I used the injection, as I said, in one to one thousand; injected from two to three drops below the cornea. There was very little pain, and the second day I repeated it, and I repeated this treatment every other day for something over a week. I have used it in other cases where it was felt very sensibly.

In this specimen everything is very perfect. You will see the iris has retained its color; the central artery of the retina has retained its color, and you can see the branches as spread out; the retina is also very perfect.

This second specimen is an eye enucleated three years after the injury. The injury was a flying splinter of steel, which entered the eye, became encysted upon the retina, and the retina is detached. This also was enucleated on account of sympathetic infection.

This I enucleated seventeen years after a perforating wound with with a pair of scissors. It was a case of atrophy of the lens,

The improvement on Priestly Smith's method and the improvement suggested by Dr. Gardiner is the use of the solution in a special fluid. We use the colors of the natural eye; the eye retains its color and all the coats of the eye. There is also the difference of the preparation of gelatine in which the eye is imbedded. There is very little difference, but I find it makes a great deal of difference in the work. For filtering I use ordinary filter paper, and get the solution of gelatine heated by passing an alcohol flame around the funnel, and it is made a perfectly colorless bed for the specimen.

C. F. STERLING, M.D., Detroit, Mich.: I want to ask Dr. Swan a question. Do you use the Mercurial injection for the ordinary plastic forms, or for the parenchymatous and suppurative? The Bichloride solution used subconjunctivally was, I believe, originated by Dr. De Wecker, and when I visited his clinic in Paris in 1894, it had been used only for suppurative conditions. The results of its use in large corneal ulcers and similar forms of disease had been very satisfactory. In fact, some of the tales told me about the cures it had wrought bordered on the marvellous. I was not aware that it had been used for such conditions as Dr. Swan has referred to.

DR. SWAN: I think within the last few months the use of the sublimate has been broadened somewhat. I have found it useful both in spastic and suppurative conditions. I have found it useful in ordinary corneal ulceration that was obstinate. I have used it also in syphilitic and in interstitial iritis, sometimes with very excellent results and sometimes with nothing.

R. S. COPELAND, M.D., Ann Arbor, Mich.: I would like to state that in my experience in these cases I have had very good success from the use of Mercurius cor., but it has been in the homœopathic form, and given internally.

F. PARKE LEWIS, M.D., Buffalo, N. Y.: I want to emphasize the importance of the Bichloride injection in suppurative conditions of the cornea. It seems to me the importance is so great that it cannot be referred to too frequently or spoken of too much. There is a class of suppurative conditions of the cornea for which our ordinary methods of treatment have proved absolutely futile. I have seen an injection of 1 to 1000 Bichloride in subconjunctival cases control suppuration with such marvellous rapidity, saving eyes that nothing else could. A week ago, before coming here, I I saw, in consultation with a very careful man, an illustration of that kind. A little corneal wound had produced suppuration, which had rapidly involved the anterior chamber, which was partly filled with pus. In twenty-four hours following the injection of the 1 to 1000 Bichloride solution, the condition had been markedly controlled, and the pus so nearly absorbed, that I have very strong hopes on my return of finding the eyeball, if not the vision, saved. The Bichloride injection is as important in suppurative keratitis as Nitrate of silver in purulent ophthalmia. Its value cannot be too strongly emphasized.

E. H. LINNELL, M.D., Norwich, Conn.: I would like to inquire of Dr. Swan and Dr. Lewis what amount of the solution they use, how many drops?

DR. SWAN: I stated in my discussion that I used 1 to 3 drops in ordinary cases.

DR. LEWIS: I use much the same, probably 4 drops, one at each corner of the eye, three or four injections, one above, one below, one on either side, depending a little on the amount of inflammation.

THE CHAIRMAN: I would like to ask Dr. Lewis if he uses this remedy in suppurative conditions.

DR. LEWIS: I have not used it in gonorrhœa; I should not hesitate to use it in suppurative conditions.

DR. STERLING: My object was to bring out the point whether the solution of Mercurius cor. or Bichloride did not hold the same relation to the suppurative conditions as to the inflammatory spastic conditions.

W. A. PHILLIPS, M.D., Cleveland, O.: My use of the remedy has been somewhat limited, but I will narrate two instances in which I employed it. You know we all have no end of trouble with cases of phlyctenular troubles in children of a scrofulous habit, and we go through the whole round of our remedies, and get benefit from this and benefit from that; and yet we do not get along with them as rapidly as we could hope. I will narrate one of these cases, to give you a hint as regards the other.

This little girl, about 6 years of age, came under my care six months ago. She had been treated by several very good general practitioners, who took in the "totality of the symptoms," and still the relapses occurred; and the child had lost her vision so that it was reduced below one-half, and every few days there would come a distinct inflammation at the margin of the cornea. In addition to that, you would find dotted over the cornea small white spots, ash-colored, showing there was the beginning of ulceration if it went far enough. I used a number of different remedies, and the disease grew better and worse, and not much better permanently. Two years ago I was present at the International Congress, and the subject was very extensively discussed there by men who had used this method of treatment; and I found there was such a very great variety of opinion respecting it that I hesitated a little about using it when I came home. But in this case I injected the Bichloride 1 to 1000, injecting only at one point above, about 3 drops; I continued that off and on for three weeks and I was very much surprised at the result. While the little girl never could see sharply, she has become at the present time cured of this phlyctenular trouble. The other case I have mentioned was similar, only not so severe. I have only used it in a few cases. While it undoubtedly stopped the course of the diseases for a time, they were not cured, and I got no very satisfactory results.

C. GURNEE FELLOWS, M.D., Chicago, Ill.: Would you advise it in recurrent cases at any age?

DR. PHILLIPS: I would. If the two cases I mention count for anything, the procedure seems safe enough, and in these cases shows that it is of decided benefit in some instances at least. It seems to be worth a more extended trial.

Otomycosis.

By E. H. Linnell, M.D., Norwich, Conn.

Otomycosis, otitis externa parasitica, fungous otitis, aural fungi and ear mould are synonymous terms used to designate a condition of the ear which is sometimes productive of serious mischief. It is essentially chronic in its nature, and yet yields readily to appropriate treatment. It is not of frequent occurrence, and possesses many symptoms in common with other forms of inflammation, so that it readily escapes notice. If recognized it is easily cured, and its successful treatment does not require expert skill.

A lady presented herself with a history of obstruction of one ear, with attendant symptoms of several months' duration. She had consulted various physicians, who had given her only temporary relief. A diagnosis of fungous otitis was made, and in less than a week she was permanently cured. Cases like the above are not of frequent occurrence, because the disease is rare, but they suggest the desirability of more accurate and general knowledge of the disease, and this is my apology for the present essay.

As its name implies, the disease is an inflammation of the external ear, caused by the presence of a vegetable parasite. Various forms of fungi may lodge in the ear, but they do not always give rise to inflammation. Hence the term otomycosis, or otitis parasitica, is not justified by the simple presence of fungi in the auditory canal unless accompanied by inflammation.

History.—Wreden, of St. Petersburg, was the first to systematically describe the disease in 1868, although mention had previously been made of the presence of aural fungi by several writers.

Thirty-four varieties of parasitic growths have been described as growing in the ear. The most frequent are the different varieties of aspergillus, niger, flavus and fumigans, and the mucor mucedo. The latter is the common grayish-white mould that forms on bread and decaying fruit.

Pathology.—Under the microscope the growth presents a mycelium composed of longitudinally arranged hyphæ, from which upright filaments grow, bearing upon their summits the sporangia or

fruit capsules which contain the spores. These are shed, and, taking root, develop and give rise to new growths. Thus layer after layer develops until the canal may be entirely filled. The fungi do not flourish in a healthy ear. There must be a suitable soil. A damp locality favors the development of all sorts of micro-organisms, and thus a person living amid such surroundings is more exposed to the exciting cause of the affection. Unless there is some abrasion of the skin, some previous eczematous or other unhealthy condition, no inflammation results. Therefore, epithelial débris, etc., are usually found in connection with the fungous growth. It is seldom found in connection with suppurative conditions, for the presence of pus seems to be inimical to the life of the fungi, on account of the presence of ammonia and sulphide of ammonia. Cerumen also is unfavorable for their growth, but oily substances furnish a very fertile soil, and we frequently find the history of a furuncle or an eczematous affection for the relief of which oily substances have been instilled. It is most frequent in middle life and in the poorer classes, rare in children and old people, and occurs more often in the country and during the autumn.

The fungus penetrates the epidermis, which is exfoliated. The new growth then penetrates into the corium, and in this way, when it develops upon the drum-membrane, the latter may become perforated and the mould develop within the cavity of the tympanum. Where the disease is chronic and there is a large accumulation, the meatus becomes dilated and the bony parts may suffer atrophy from pressure. It is possible for the cancellated tissue of the temporal bone to become transformed into a compact, hardened condition known as eburnation, and hyperostosis of the bony meatus with diminution of the calibre of the canal may result, or circumscribed exostosis.

Symptoms.—The symptoms do not differ in character from those of other affections causing occlusion of the meatus. The cases may be so mild as hardly to attract attention, or very severe. After a time the inflammation may subside spontaneously, only to commence anew after a short time, and each exacerbation is likely to be worse than the preceding.

The first symptoms are itching, heat and tinnitus. After a time there is usually more or less pain, which may be severe and extend into the head, face and neck. Deuch mentions epileptiform attacks, vertigo and cough as reflex symptoms of otomycosis. The "glands below the lobule of the ear" may become inflamed. There is fre-

quently a slight watery discharge, sometimes a "stuffy feeling" and more or less impairment of hearing, depending upon the amount of obstruction, and also a sensation as though the patient's voice came from the affected side of the head (autophany) from the same cause. The microscope affords the only positive means of diagnosis, but the microscopic appearances are sufficiently characteristic to enable one to recognize the disease with almost absolute certainty.

If seen early, we notice upon the sides of the meatus, or upon the drum-membrane, or both, a thin layer of soft glue-like substance looking like moist blotting paper. This is of a whitish or yellowish-white appearance, with yellowish, brownish or blackish dots upon the surface, which are due to the spores, or it may present a uniform yellowish, brownish, greenish or black appearance, according to the variety of the fungus present. The aspergillus glaucus gives a whitish color, and the black is due to the aspergillus nigricans. In this latter the appearance may be as if the surface was coated with coal dust. In aspergillus flavus the color is like lycopodium powder. There is usually more or less serous exudation. The growth can be partially removed by syringing, but flakes remain which again can be partially removed by wiping with a cotton-covered probe. The epidermis is shed with the mycelium, leaving the surface denuded and sensitive, and with more or less serous discharge. It is difficult to remove every particle of the growth, for it is imbedded in the substance of the epidermis, and unless antiparasitic treatment is adopted the surface may be completely covered with new growth within twenty-four hours. Later in the disease, as has been stated, the corium is invaded and its removal becomes more difficult and often can only be accomplished by instruments. Sometimes, in this way, it comes off in the form of a cast of the canal and drum, leaving the parts raw and bleeding. Such forcible removal is ill advised. As layer after layer is formed, and the lumen of the meatus becomes more and more occluded, the mass resembles very closely a wad of wet newspaper, which is an exceedingly characteristic appearance and one which can hardly be mistaken. The mass is moist, soft and pultaceous, but removed with difficulty. These characteristics, the appearance like wet newspaper, the soft moist condition, together with the difficulty of its removal and the raw, denuded appearance of the skin after removal are sufficient to establish a diagnosis. The aspergillus glaucus causes less severe inflammation, as a rule, than the

aspergillus niger. Barclay says that the size of the fruit is in direct proportion to the intensity of the suffering.*

Differential Diagnosis.—The other conditions which are most likely to be mistaken for otitis parasitica are a chronic proliferating dermatitis and seborrhœa. In the former case an accumulation of exfoliated epidermis, with masses of cerumen, serum, pus, etc., may occlude the canal and afford a superficial resemblance to a fungous growth. This is rendered more striking if, as not infrequently happens, some spores find a lodgment on the surface of the accumulated epithelial débris. In water, epidermic scales are recognized by their flaky appearance as they unroll and spread out. The mass is harder than the mycotic growth, but is easily penetrated with a probe. It is more easily removed by syringing, although with some difficulty, and it does not leave the skin in as denuded and sensitive a condition as does the latter. An eczematous inflammation extends through the whole extent of the auditory canal. Adherent, thick, yellowish-brown crusts form, which are detached with some difficulty, leaving the skin somewhat thickened and oozing a thin serum. Seborrhœa, on the other hand, is limited to the outer part of the meatus, and forms a thin brownish or yellowish coating on the skin, which is easily removed in flakes which have a feeling as of oil. A parasitic growth usually begins upon, or in the neighborhood of, the drum membrane. An accumulation of cerumen is recognized by its uniform dark-brown color, its greater consistence, its solubility, the intact condition of the skin remaining after its removal, and the absence of pain and inflammation. The two conditions may exist simultaneously, as in a case which came under my observation recently.

The patient gave a history of impairment of hearing of the left ear, without subjective sensations, but of long duration. An obstruction of the other ear caused her to seek advice. A plug of cerumen was easily removed from the right ear, with entire relief and restoration of hearing. That in the left ear was hard, tightly impacted, and was removed with difficulty. The drum and osseous meatus were then found to be covered with a fungous growth, and the tissues underlying it presented the raw, denuded appearance characteristic of this condition.

A croupous or diphtheritic inflammation of the ear might present a resemblance to the mycelial coating in the early stage of otitis

* See Burnett's *Treatise on the Ear, Nose and Throat.*

parasitica, but the accompanying symptoms would render a mistake impossible.

Treatment.—The treatment of this affection is of the utmost importance, for a rapid cure results from appropriate treatment, and a long, tedious and increasingly serious condition is a necessary consequence of improper treatment.

The nature of the affection being understood, there can be no difference of opinion as to the appropriate treatment, which consists in the thorough removal of the growth and the employment of such local remedies as will prevent its recurrence. In the removal of the growth care should be taken not to injure the skin. For this reason it should not be forcibly removed by forceps, as has sometimes been advised. This not only causes much pain, but leaves the underlying tissues in a denuded, sensitive and often bleeding condition, which offers a very favorable soil for renewed development. It is best to syringe the ear gently with an alkaline solution, Boric acid or Salicylic acid, for instance, and then to wipe it with a cotton-covered probe. After freeing the ear from as much of the growth as can be readily removed in this manner, if there is much moisture remaining, a little Boracic-acid powder should be insufflated, and the patient dismissed for a time. It is better to see the patient several times than to remove the growth forcibly, and the syringing should never be left to the patient, as it is impossible for any one except the surgeon to accomplish it satisfactorily and thoroughly.

After complete removal a choice may be made between a liquid or a dry dressing. In the opinion of the writer there is nothing more satisfactory than a saturated solution of boracic acid in alcohol. The patient should be placed with his head on a pillow, the affected ear uppermost. Fifteen drops of the solution, warmed to the temperature of the body, should be instilled and allowed to remain for at least fifteen minutes, so that all parts of the skin and meatus may be thoroughly soaked, and this should be repeated three times a day for three days. Afterwards once a day for a week is sufficient. It is well to continue the instillations once a week for several months, to insure permanent immunity from a recurrence of the growth. If the skin is much denuded and sensitive the alcohol may at first be diluted with distilled water, or a dusting powder may be employed, especially if there is much exudation. The following are among the best, and are generally efficacious:

Boracic acid, either alone or in combination with Iodorm, Iodol

or Dermatol; Oxide of zinc and Boric acid, 1–2, in eczematous conditions; Boric acid 1, Salicylic acid 20 parts.

C. H. Burnett recommends as the best parasiticide in these conditions, Chinoline salicylate, 1 part, to 8–16 parts of Boric acid.

Hinton advises for instillations the following, viz.:

℞. Liq. plumbi subacetatis, ... ♏xx.
Acid. acet. dil., ... ♏vj.
Liq. opii sedativi, ... ♏xx.
Aquæ destillat., ... q. s. ut ft. ʒj. M.
Sig.—Drop 10 drops warmed into the ear as directed.

Other liquid preparations which have been advised by different authorities are: Merc. bichlor., 1–8000, in 50 per cent. alcoholic solution, or a 2 per cent. alcoholic solution of Salicylic acid; Potass. permangan., a 6–10 per cent. solution; a 50 per cent. solution of Tannin in alcohol; and Hyposulphite of soda, 2–30.

As prophylaxis oily solutions should not be used in the ear, or if necessary to do so, the meatus should afterward be wiped with cotton moistened in alcohol.

In the preparation of this paper I have consulted Burnett's *Treatise on the Ear, Nose and Throat*, Deuch, Politzer and Gruber on the Ear.

The Relationship Between Asthma and Bronchitis and Disturbances of the Digestive System.

By Thomas L. Shearer, M.D., Baltimore, Md.

In looking over the literature of asthma, one is struck by the many failures which have been recorded or at least have been tacitly acknowledged in text-books concerning its treatment. Two causes may be assigned for this result: First, that there is no specific for asthma; second, that its true nature and ætiology have not been in many cases clearly understood. The theory that asthma is always caused by a spasmodic contraction of the circular muscular fibres which exist in the finest bronchial tubes, was for a long time accepted as a fact, and what seemed to confirm this idea was that the neurotic temperament, which is characteristic of asthmatic subjects, was apparently manifested by these muscular spasms. Bosworth, who followed some years ago Webber's theory concerning this disease, asked these questions: *First*, If the paroxysm is due to muscular spasm, why should the attack in most instances occur at night? *Second*, Why should it be affected by changes of temperature? *Third*, Why should relief be obtained by high altitudes? *Fourth*, Why should an attack be aggravated by a damp, bad atmosphere? In answer to these he says: *First*, In sleep there is everything which should protect one from an attack of asthma, and yet a paroxysm almost invariably comes on at night. *Second*, Changes of temperature are not recognized as having any marked effect on the nervous system, and yet a change of climate not unfrequently precipitates an attack of asthma. *Third*, The seashore, rather than the mountainous districts, is favorable to the toning up of the nervous system, and therefore asthmatics should suffer least at the seashore if this theory rather than the converse is true. *Fourth*, That the paroxysm is ushered in suddenly, and that during its persistence is characterized by symptoms which are easily explained upon the theory of spasmodic muscular contraction of the circular fibres of the bronchial tubes, but the culmination of the attack is invariably marked by a more or less profuse sero-mucous exudation, with cough and expectoration. Bosworth, quite rightly, thinks that this

does not harmonize with the spasmodic theory, and that in all probability the old theory will have to be abandoned on the ground that it fails to explain the clinical history of asthma or of its paroxysms. "If we must cast this idea aside, what other view can we find that will explain to us in a satisfactory way all the special points mentioned above? There are two theories advanced, one by Webber and one by Haig. Webber, who has devoted considerable time to the subject, came several years ago to the following conclusions: That an asthmatic paroxysm is due, not to muscular spasm, but to a paralysis of the vaso-motor nerves regulating the calibre of the blood-vessels of the bronchial mucous membrane. When a vaso-motor paralysis comes on suddenly, the blood-vessels in the bronchial mucous membrane assume a sudden turgescence, from which the membrane becomes markedly swollen and congested, thereby encroaching upon the calibre of the bronchial tubes, constituting really the first or dry stage of inflammation. The membrane is swollen, dry, and does not secrete. The result of this swelling is to interfere not only with the entrance of air to the air-cells, but also to its escape, causing dyspnœa both in inspiration and expiration. This condition, persisting for a certain time, suddenly gives away with a profuse exosmosis of serum and ends the attack. Webber's theory is certainly more in harmony with the clinical history of asthma, as well as with the clinical history of its paroxysm, and it does not deny the neurotic element. And now what facts can be brought forward to support this view? In answering this, I shall dwell a few moments upon the exciting causes which are capable of producing a paroxysm, and then upon the conditions which must be present to assist in bringing about an attack. *First*, We must recognize those cases in which the attack is excited by direct irritation of inhalations, such as smoke, Ipecacuanha powder, emanations from certain animals, etc. *Second*, Cases in which the reflex nature is very marked. Under this head come attacks resulting from constipation, uterine irritation, and violent mental emotion. *Third*, Asthma occurs often as a complication of bronchitis, heart disease and emphysema, and is usually brought on by fatigue or physical exertion. *Fourth*, Then, as in many cases recently treated, a diseased condition of the nasal mucous membrane has been found. The true nature of this being an obstructive lesion, which gives rise to vaso-motor weakness of the bronchial mucous membrane through the intimate sympathy between the two regions —nose and bronchial tubes. In the case of polypi, located in the

middle or posterior part of the nasal cavity, accompanied by asthma, in addition to the symptoms occasioned by the growths themselves, we may consider the process by which an asthmatic paroxysm is brought about, to be as follows: The polypi swelling up on the approach of damp weather, or in some cases without this occurring, irritate the sensory nerve filaments connected with the sphenopalatine ganglion. From this the impression travels to the carotid plexus, which is closely connected with the posterior pulmonary plexus, formed not only by the branches of the sympathetic, but also by some from the pneumogastric, and finally to the ramifications of the air-tubes through the sympathetic filaments to the bronchial mucous membrane. The first effect upon the nasal and bronchial vessels being contraction followed by dilatation, the venous sinuses, or corpora cavernosa, becoming filled with venous blood and remaining distended, the bronchial vessels remaining dilated, the lumen of the bronchia is narrowed and dyspnœa results. In one of my cases, pushing a polypus itself against the nasal mucous membrane, or pressing with the point of a probe against the same surface, produced a marked increase in the difficulty of respiration.

In another case, which is an example of reflex asthma caused by severe shock to the cerebro-spinal nervous system and, through the sympathetic nervous system, to vaso-motor disturbance of the bronchial vessels, the patient, a young girl aged 17 years, was perfectly well, and while walking in the street she slipped and fell violently upon the icy pavement. She developed a few minutes later an attack of asthma that lasted four days. *Fifth*, Finally, some as yet unknown condition, atmospheric in its nature, is a factor in precipitating a paroxysm. It only requires a thought—hardly any (deep) meditation—to realize that, while Webber's theory seems to explain many of the cases of asthma which we meet in our daily practice, yet it also leaves many questions concerning its true nature and symptoms unanswered. For instance, how about those cases of asthma which do not possess noses full of pathological specimens? Asthmatics that are not victims of rectal or uterine disturbances? People that are not indulging in persistent inhalations of irritating powders? And finally, that class of patients who, like the many mental arithmetic problems that appear to the student as without a solution, simply have asthma, and any amount of careful research for a cause still leaves us in the dark? It was in all probability the appreciation of this state of affairs that prompted Dr. Alex-

ander Haig, of London, to work up, day by day, as he gained fresh facts of importance to him, the theory that is, by all means, the latest and most elaborate at the present time.* He maintains: I. "That asthma, while resembling migraine, epilepsy and Raynaud's disease, is paroxysmal and is also, like those diseases, paroxysmal in relation to the excretion of uric acid, and the amount of that substance which passes through the blood." II. "That as excess of uric acid in the blood contracts the arterioles all over the body and produces high arterial tension, and further, as there is some reason to think that migraine and epilepsy represent the effects of high arterial tension on the circulation of the brain, while Raynaud's disease represents the effects of contracted arterioles upon the nutrition of the skin, we found ourselves asking the question whether asthma might not represent the effect on the thoracic circulation of the contraction of arterioles and high arterial tension similarly produced." Haig points out, in favor of this supposition, that uric acid, which by its effects on the renal arterioles regulates from day to day, and from hour to hour, the amount of water that shall be passed in the urine, regulates also within certain limits imposed by physical laws, the amount of water given off in the air expired from the lungs. In order to understand the causation of asthma from this standpoint, it is necessary to remember two facts relating to the physics and physiology of the thorax: I. "That there are two circulations within the chest, (*a*) that of the pulmonary artery, in which there is comparatively low pressure, and (*b*) that of the bronchial arteries, which come from the systemic circulation, in which there is a much higher pressure."

II. "These circulations are enclosed in a cavity in which the pressure varies every moment with respiration. According to Marey, if the atmospheric pressure on any vascular area of the body be diminished, its capillary vessels at once dilate and it is obvious that most blood will stream into that area which has the highest arterial tension behind it, because it is the pressure in the arteries which drives the blood through the capillaries into the veins."† Hence, if the atmospheric pressure is lessened in the thoracic cavity the bronchial circulation will be more congested than the pulmonary. If the tension in the systemic arteries is high the area supplied by the bronchial arteries will be proportionately congested. Therefore, there is a tendency to hyperæmia and congestion in the

* *International Clinics*, vol. iv., series 3.

† Marey, *La Circulation du Sang*, 1881.

lungs, which is most pronounced in the region to which the bronchial arteries are distributed and which will be increased with rising arterial tension or by anything which obstructs the free entry of air to the chest, and so diminishes more than usually the atmospheric pressure during inspiration. Marey* is inclined to take the view that the ease with which the lungs become congested or inflamed may be attributed to the diminished pressure in which they have to work. Haig says: "It seems to me that such a congestion or hyperæmia affecting especially the bronchial circulation may quite account for the retrosternal pain with slight increase of bronchial secretion and wheezing which I have myself experienced in connection with excess of uric acid in the blood, and the high arterial tension it produces; and a slight increase of this disturbance may easily account for the bronchial congestion of asthma. Do not we here get a ray of light on the causation of chronic bronchitis, and on its frequent association with chronic Bright's disease and high arterial tension in the declining years of life?" It is easily understood that once a certain amount of bronchial hyperæmia exists, the mucous membrane becomes swollen, and by obstructing the free entrance of air to the bronchi and alveoli, causes a diminished pressure in the distal air passages, and hence increased hyperæmia and congestion. This makes the difficulty in respiration worse until a copious secretion of mucus occurs. Uric acid then, if present in the blood in large quantities and constituting uric acidæmia, gives rise to high arterial tension in the area supplied by the bronchial arteries. If the resulting hyperæmia or congestion is slight and chronic, we may have an explanation of cases of chronic bronchitis; if more sudden and severe in its nature, we may have an attack of asthma. If asthma is caused in this way, it ought to be aggravated by anything that contracts the systemic arterioles and raises the arterial tension, and it should be ameliorated by anything that produces relaxation of the arterioles and hence diminishes arterial tension.

Anything that prevents the free entrance of air to the chest should also increase the asthmatic symptoms. Asthmatic paroxysms are always worse in the early hours of the morning, because the largest excretion of uric acid in the twenty-four hours occurs at that time, and in passing through the blood occasions a high arterial tension. During sleep the patient is usually in the recumbent posture, which of itself increases arterial tension when compared with standing or

* *Loc. cit.*

sitting, so that asthmatics often sleep in a chair, but cannot do so in a bed.* To sum up this view of Haig, we may state that asthma is probably produced in this way:

(*a*) Either an acute attack of indigestion, bad air with deficient oxygen, fear or shock, certain odors which produce nausea, excessive heat, etc., are capable of causing increased *alkalinity of the blood.*

(*b*) With increase of the alkalinity of the blood there is the tendency by it to take up all of the uric acid within its reach.

(*c*) This sudden accumulation of the uric acid in the blood increases the arterial tension, the result of which is to precipitate an attack of bronchitis or a paroxysm of asthma, as explained above.

(*d*) Where nasal irritation and obstruction exist with asthma there is probably only the relationship that the free entrance of air in inspiration is interfered with; the natural tendency of this is to diminish the atmospheric pressure in the thorax and increase the congestion in the bronchial area, provided the arterial tension remains sufficiently high.

(*e*) Finally, the drugs most widely used in the treatment of asthma, by the Old School, are probably the Iodide of potash and other Iodides, which are well known to relax the arterioles and lower arterial tension by clearing the blood of uric acid. Also that the fall of arterial tension and diuresis thus produced are synchronous with the marked fall in the excretion of uric acid. At this point we find ourselves confronted with the question: "What is the real source, method of production and nature of uric acid?" And it is necessary that we look into these points if we are to reach any definite conclusions concerning the theories above reviewed. The latest researches into the uric acid diathesis, by Horbaczewski and Roberts, have altered considerably the ideas commonly held upon this subject.† Uric acid is one of the normal constituents of the urine, and there are no facts which tend in the least to support the oft-repeated statement that it is formed only in the kidneys. It is not possible to prove its presence in the blood of healthy persons, simply because the human subject naturally refuses to shed his blood in sufficient quantities for an accurate analysis, which cannot, with our present methods, be made with a minute amount. uric acid, xanthin and hypoxanthin can be prepared from spleen pulp, and the constituents of this organ, which can be decomposed

* Marey, *Loc. cit.*

† Shrady, *Medical Record*, New York, April, 1895.

into xanthin bases or uric acid, is the nuclein of its lymphatics. Outside the body, uric acid may be prepared from any of the tissues. Haig says, "All animal tissues contain some small percentage of uric acid, and there is every reason to believe that, when the tissue is eaten and digested, this uric acid is absorbed into the blood, and remains either in the body or is excreted in the urine, according to the condition of the blood at the time it gets into it; if the blood is very alkaline, or otherwise in condition to hold urates in solution, they will probably remain in it until the kidneys have time to excrete them; if, on the other hand, the blood is but slightly alkaline, or otherwise unable to hold urates in solution, they are deposited or held back in the liver, spleen, or other tissues, and remain but a short time in the blood, though they may come back to it later on. Then many animal tissues contain other members of the xanthin group, and the metabolism of the body appears to make short work of slight chemical distinctions, promptly converting them into uric acid; and caffeine and other vegetable alkaloids are so closely related to the xanthin group that for all practical purposes they may be reckoned as uric acid, and their introduction into the body increases the excretion of uric acid to a corresponding extent." If Nuclein is taken as food, or injected hypodermically, uric acid is increased. It is very probable, from the researches of Horbaczewski, that uric acid is produced in the healthy person by the decomposition or breaking down of nuclein, which is found in varying amounts in all the tissues. It is a curious fact that the quantity of Uric acid bears a close relationship to the number of white blood corpuscles, as exemplified by cases in which there are formed and destroyed large numbers of these corpuscles, as anæmia, leucocythæmia, pneumonia, carcinoma and very severe burns. In such morbid conditions we find uric acid increased in amount. Exercise invariably causes a greater production of it, and Carbon monoxide, Pilocarpine and alcohol have the same effect. According to Roberts, the acid normally exists in the blood as a quadriurate, and is excreted by the urine as such; further, that an excess of uric acid in serum cannot remain long in solution. If the kidneys do not eliminate it, the increased quantity tends to its deposition in the body as a biurate, and the overloading of the blood with uric acid can only occur under one of two conditions: (*a*) Either it is produced so abundantly that some of it is stored up in the blood, although the normal amount is excreted, or (*b*) with a normal production an abnormal amount is

retained in the blood because of functional irregularities of the kidneys. If we admit the possibility of a retention of uric acid, then everything which is capable of temporarily increasing its formation will take effect; and by its secondary deposition into the tissues the blood is again purified. If this deposition of the biurates goes on without disturbing the circulation in the lymph channels little pain is experienced, but if suddenly the lymph channels become obstructed, pain, inflammatory symptoms, etc., are certain to be present. Roberts says that those tissues which are richest in soda are preferred regions for the deposit of biurate crystals. Finally, "the excretion of biurate uric acid is influenced by age, diet, various physiological states, medicines, poisons and various diseases." Haig maintains that dyspepsia is partly a cause and partly an effect of uric acidæmia and high arterial tension. Further, that uric acidæmia, when it contracts the arterioles, may practically suspend entirely gastro-intestinal digestion and absorption, and allow putrefactive processes to take their place. "Dyspepsia, on the other hand, will also cause or increase uric acidæmia; suppose that some indigestible substance, as a piece of pork, upsets the gastric digestion, the result of which is the more or less complete arrest of digestion and absorption, even if there is no vomiting; and this promptly causes a fall in urea and a corresponding fall in the acidity of the urine; the alkalinity of the blood is increased, and any uric acid within its reach is at once taken up in the solution; such is the usual causation of a 'bilious' attack, or uric acid storm, and the high arterial tension which results from the passage of the uric acid through the blood produces either headache, epilepsy, or, if the dyspepsia is chronic rather than acute, mental depression, and leads on to that general failure of nutrition which we call Bright's disease. I believe that the relationship of asthma to dyspepsia is precisely similar, and in some cases the cure of the dyspepsia is the cure of the asthma." It has been a matter of observation, in some of my cases of asthma and bronchitis, that invariably the attack was preceded or accompanied by symptoms of disordered digestive functions, with nausea, coated tongue, fever, extreme restlessness, nervousness, loss of appetite, headache, dizziness and drowsiness, and even symptoms of slight jaundice; pains in the chest, with asthmatic or pure bronchitis symptoms, and later profuse sero-mucous or heavier expectoration, all of which symptoms were relieved by treatment directed primarily towards the hepatic and gastric symptoms, as a large increase in the excretion of

uric acid occurred. These attacks, in some cases, recurred as often as from four to six weeks apart, and were all similar. It has often also been noticed that a gouty history or tendency to gouty disease is present in persons who suffer from asthma. And, indeed, I am inclined to go further, and to suggest, as a result of close observation, that many cases of rose cold and hay fever, if not all, have as the great basis of their existence some disturbance in the production or elimination of the uric acid or xanthin bodies, which act as a powerful predisposing cause. The irritability of persons who are suffering from asthma, rose cold and hay fever is well known, and people subject to gout are not, as a rule, agreeable campanions. And now having considered these points, which are entitled to a discussion in the pathology of asthma, what deductions, with reason and fairness, can be drawn from them in regard to the causation of it?

I.—It is clearly seen that if we admit that a paroxysm of asthma is directly due to a spasmodic contraction of the circular muscular fibres in the finest bronchial tubes, one of these things must occur:

(*a*) The contractions must be intermittent, and in the intervals between these respiratory contractile gasps the patient should experience comparative lulls of relief, which is never the case.

(*b*) The contractions must be constant or tetanic in nature, in which case it is hardly likely that any person could survive a prolonged and severe attack of asthma, if many tubes were involved, as asphyxia would in all probability result.

(*c*) The attack should pass away without the usual exudation of sero-mucous expectoration, which we find is not the case, although the quantity may vary in different attacks.

(*d*) There is no proof that the muscles of the larger bronchi are spasmodically contracted in an asthmatic attack, why should we suppose the smaller ones to be in this condition?

(*e*) Lastly, there has never been any substantial evidence produced that justified the acceptance of this theory.

II.—The evidence and clinical history as worked out with the theories of Webber and Haig, and as strengthened by the researches and experiments of Horbaczewski, Roberts and others (to which we have referred), lead us to confirm the statement that "asthma is a neurotic affection characterized by hyperæmia and turgescence of the mucosa of the smaller bronchial tubes and a peculiar exudate of mucin."*

* Osler, *Practice of Medicine.*

III.—The attacks may be caused:

(*a*) By direct irritation of the bronchial mucous membrane, acting, of course, through the stimulating effect of various irritants—as dust—upon the fine endings of the bronchial nerves and producing vaso-motor changes in the bronchial vessels.

(*b*) By reflex irritation through the nasal mucous membrane, and hence paralysis of the vaso-motor nerves, which regulate the calibre of the bronchial arteries with turgescence of the membrane, as explained.

(*c*) By reflex irritation from the mucosa of the stomach, intestines and genital organs acting in the same way.

(*d*) By sudden fright, paroxysms of fear, violent emotion, etc., which act reflexly in the same way that an ordinary vaso-motor change or blush occurs upon the face, but modified, of course, by the size and location of the vessels and the function of the part affected.

(*e*) By the effect of a heavy, damp atmosphere laden with moisture, which I believe acts simply by preventing the bronchial mucosa from parting with its normal amount of water, and hence favors turgescence, with its accompanying paroxysm of dyspnœa. Consequently, a high altitude with a dry atmosphere, by permitting a free exosmosis or transudation of water, favors a diminution of bronchial congestion, a larger lumen for respiratory purposes and hence freedom in breathing.

IV.—The predisposing causes of asthma are:

(*a*) The temperament, which is always referred to as the "neurotic," and is simply a peculiar state of hyper-sensitiveness and instability of the entire nervous system, which, on the application of any irritant, readily allows its control over any vascular area weakened by previous attacks to be temporarily lost and a nervous discharge or explosion to vent itself at the point of least resistance.

(*b*) Chronic catarrhal states of the air-passages easily, by the partially altered condition of the bronchial vessels and partly diseased mucosa, naturally pave the way for increased swelling of the vessels, and either asthmatic or bronchitic attacks, when once the habit of dilating on the slightest irritation is established.

(*c*) Anything which interferes with the excretion of uric acid, as age, diet, poisons, alcohol, gastric catarrh, disordered liver and various diseases. If the excretion of uric acid be interfered with, we have seen that high arterial tension of the bronchial arteries results, with secondary swelling of the mucosa; but I am inclined to

think that this curious effect of uric acidæmia is more apt to produce conditions which are favorable to the development of the true spasmodic asthma, or, as commonly called, bronchial asthma. There is also nothing to prevent our considering the bronchial lymph channel as very liable to be irritated by the biurate crystals circulating in them, and in such cases by exciting those vessels to give rise to the migration of leucocytes into the mucosa, and thence, with the mucin secreted, to form the round gelatinous masses which constitute in the early stages of true asthma the sputum described by Curshmann. When they are unfolded they are seen to be very often in spiral forms. Further, the microscopic examination of these spirals reveals at times the pointed octahedral crystals as described by Leyden, and I need only here call attention to a fact previously pointed out, that morbid conditions in which leucocytes are formed in excess and destroyed are apt to increase the production of uric acid or to be the outcome of such increase of such acid. Also, that Leyden's crystals are identical with Charcot's octahedral crystals, which separate from the blood after death in cases of leucocythæmia. I think that these facts ought to give us food for reflection upon the causation of true or bronchial asthma. The swelling of the lymph channels would certainly increase the turgescence of the bronchial membrane, and could readily be the primary cause of sudden contraction and then dilatation of the bronchial arteries, leading to mucosal swelling and asthma. When we consider the irritating, insoluble nature of the biurate crystals, the annoying effect when deposited in the other localities in the body, there is no reason why the same irritation, modified by anatomical structure, extent of surface, etc., should not manifest itself in the way suggested, especially when other conditions acting as exciting causes are at work. The most interesting question of all is, what relation (if any) do the Leyden crystals, which are probably of xanthin origin, bear to the uric acid compounds? I believe that ordinarily the chief difference between bronchitis and asthma is one of degree only. The relationship between asthma and bronchitis and the digestive system is now apparently more clearly defined. Many so-called "bilious attacks" are simply uric acid storms, in which the liver and blood are temporarily loaded with this acid. It is advisable, in all cases of asthma and in cases of persistently chronic bronchitis or of constantly recurring attacks of subacute bronchitis, to examine thoroughly the respiratory passages and organs for any special causes of irritation; to ascertain if any gouty diathesis be

present; to examine carefully into the processes of digestion with special reference to diet, alcohol, etc., and to the excretion of uric acid; to keep a sharp lookout for leucocythæmia, anæmia and other previously mentioned conditions that favor increased formation of uric acid, for asthma and bronchitis are not the results of simple but usually of complex causes, which act in various combinations and thus give us many allied types of the same affections by so doing. I regret that the length of this paper will not permit of any reference being made to the most important subject of all—the treatment, and I shall therefore have to postpone the consideration of it to some future date.

Discussion.

F. Parke Lewis, M.D., Buffalo, N. Y.: If the theories of Haig are correct, it would seem that our whole plan of pathological work must be modified, and it would seem that very much that Haig says is true. I should be very glad if Dr. Shearer had taken time to give a little further his uric acid treatment by dietetics, whether in his opinion the elimination from the food supply is in itself enough to relieve the blood from the poison which seems to be causing the trouble.

Another idea that is suggested by Haig's book and Dr. Shearer's paper is the advisability of our determining more definitely the action of our Homœopathic drugs. It would place our therapeutics upon a much more substantial basis. The placing of this whole subject upon a basis of physiological chemistry is one of such great importance that it certainly will bear critical study.

J. Herbert Moore, M.D. Brookline, Mass.: I would not venture to rise in a meeting of this kind, in which I am a stranger, were it not for the fact that this paper is on the ground where the general practitioner and specialist may meet. I want to briefly relate a clinical case which, in my opinion, supports the theory advanced in this paper. A year ago last January a patient came to my section of the country, near Boston, from Colorado Springs, whither she had gone, hoping to get relief from a severe case of asthma. I was called to attend her, and after a careful examination of the lungs, found no physical signs other than those peculiar to the asthmatic condition, and no organic pulmonary disease presented itself, except traces of an old pulmonary abscess, but which apparently had no effect upon the asthma. A pelvic examination revealed a fibroid tumor of the uterus the size of my fist. I followed the case along a number of weeks, and found that every ten days or so she had a most violent outburst of what would be called, in the summer months, hay fever. Finding that my treatment was of little avail, and desiring to eliminate the question of reflex aggravation of the fibroid as the cause of the asthma, I advised the

patient to have the uterus removed, although her condition was somewhat precarious, for I had faith in her vitality, which seemed to be very strong. The uterus was removed, and the patient stood the operation remarkably well, and for two or three weeks there was great relief from the asthma, due in part to the elimination of uric acid during the necessary loss of blood at the time of operation. After the patient had been in the hospital four or five weeks she was taken with another severe attack of seemingly hay fever; but a short time after this the asthma grew worse, and in the course of two or three months she died. It was very noticeable that during the severe attacks of the hay fever like cold she was much relieved from her asthma, and I came to the conclusion, from the symptoms presented, and from the effects of the treatment, which was invariably more effectual when directed to the lithæmia, that the asthma was due to this diathesis. I believe it was essentially neurotic, and that it was in this way caused by the poisoning of uric acid in the blood.

W. R. McLaren, M.D., Detroit, Mich.: I am very glad to know that Homœopathy gives as much and careful attention to this class of diseases as our Old-School physicians. I have been fortunate, in curing a number of cases of asthma in this city, to have among them some very prominent people.

The question of diet with me is the first consideration in the treatment of asthma. I am glad to have heard this paper this afternoon, because certainly the uric acid disturbance has come to be recognized. Some prominent physician of England says that the majority of cases of Bright's disease, rheumatism and gout are due to excessive meat eating, a storing up of uric acid. If that is the case in England it must certainly be true in America. I must take exception to the doctor's statement in regard to its being a vasomotor disturbance. Chronic cases are the only cases that ever come to the specialist, so far as my observation goes: that it is certainly a spasm of the bronchial muscles. I correct the diet and look after the alimentary canal, because I believe that there is a great deal of this toxic trouble that must be looked into in these chronic cases. I first begin with lung exercise; that has been eminently successful in my cases; I have only one failure to report. There are people in this city who have not had any remission of asthma for six or seven years, ages ranging from 21 to 52, some thin and some fat people.

Perhaps I will change it, and make it nutrition first; have that properly directed, and then lung exercises. The doctor makes the statement that asthma is generally worse at night, and that is another proof that it is not a spasm of the bronchial muscles. Now, that is not clear to my mind, and perhaps he can clear it up. There are a great many diseases in which the patient is worse at night. In a great many people we have restlessness at night because it is the night time, and there is not so much to take up their attention. I don't know why these spasms are always worse at

night. I do not think now of any of my cases where it was specially characteristic. I know one of them was a letter-carrier, and he had his worst spasms in the forenoon, between ten and eleven o'clock. He would be interrupted in his work and have to call some one else to take his place.

Another very common cause is eczema. A great many have the idea that it is the starting-point. I suppose if Professor Pratt was here, he would tell us that the rectum should be examined and any orificial work should be attended to, if necessary.

I don't know where there is more necessity of downright honesty in the Homœopathic School than there is in the materia medica of diseases of the chest. Very much has been claimed for Lycopodium. I hope that this bureau will grow, and become not only sectional, but very largely national. And we are startled at the reports that come to us from time to time of marvellous cures by new remedies, and our faith has been shaken in many ways.

LAMSON ALLEN, M.D., Worcester, Mass.: I would like to ask Dr. Shearer what I understood him to say was the reason why asthma occurs at that time in the small hours of the night.

T. L. SHEARER, M.D., Baltimore, Md.: The acid passing through the blood causes attacks of dyspnœa, raises the arterial tension.

DR. ALLEN: I would like to know if anybody can tell me whence comes the origin of uric acid, at what hours of the day it is most secreted; is it uric acid in the blood or is it uric acid after it comes out into the bladder from the kidney? I have a deep concern in it, I assure you. I found I was passing only thirty ounces of urine on an average, with oxalate of lime in abundance, and all the alkaline treatment did not do any good whatever. The only thing that touched my case was the Stafford mineral water; I think Lycopodium had some influence but the Homœopathic remedies did not.

DR. SHEAKER: Did you keep on eating meat?

DR. ALLEN: No, sir; I haven't eat a piece of beefsteak or any red meat since the first of January; the trouble with me is to keep the flesh down.

I wish somebody who knows something about it could write about uric acid. I was restless at night, would jump up in the night and would sit up suddenly in bed. If I got very tired, if I lost my night's sleep, if I was called out in the night and got unusually tired, I had to get rest the next day before I could finish my work; and then there were some symptoms of indigestion, not in the way of constipation; I do not think what I ate was digested; I had not unusually large stools; I never have been troubled with constipation in my life. I then was weighing 172 pounds, which was too much for my height, but I reduced to 145 pounds the 1st of May, when the uric acid first disappeared; but I found that two

conditions would bring it on—over-eating and getting over-tired, or the two combined would do it just as sure as fate; but in my case the uric acid was not apparent in the urine at the time it was passed; it took from six to eight hours for it to appear; that is grossly, not by the centrifugal method of obtaining the sediment.

J. H. MOORE, M.D., Brookline, Mass.: Do you ride the bicycle?

DR. ALLEN: I am just beginning to; I learned this spring.

H. E. BEEBE, M.D., Sidney, Ohio: I would like to ask what the condition of your skin is?

DR. ALLEN: I naturally am a person who perspires very freely. I could not run from here to the corner of the room without perspiring in the coldest day of winter, and at that time I was having a severe pharyngeal catarrh. Since the uric acid has disappeared that has improved very much; and also another condition that has appeared which I have noticed within six or eight months, or within a year and a half perhaps—after perspiring, my flesh would become ice-cold and I was obliged to wear woolens next to my flesh the year round; after securing the Jaros hygienic underwear I have been warmer, but such weather as we had last week (Friday) makes me very much depressed and makes me feel very weak.

DR. SHEARER: I do not wish to take any more time in speaking about the muscular action; what I did say was that if the trouble was due to the contraction of the small muscles in the tubes. If a number of tubes were involved the patient would be asphyxiated.

A MEMBER: I would like to ask Dr. Shearer if he will not outline briefly his treatment.

DR. SHEARER: I think I ought to be excused; let me send the treatment later to one of the journals.

The Psychology of Vision.

By F. Parke Lewis, M.D., Buffalo, N. Y.

It is axiomatic in the relation to all of the vital processes that the exercise of function is the prime essential in the development of structure. That the muscles may be strong they must be used. An organ or a portion of an organ that is no longer necessary to the organism gradually ceases to be effective, and in process of time, it may be through many generations, it ceases to exist. An organ which takes on new functions, takes on a new form adapted to its new uses. So that while the fishes living in the darkness of the Mammoth Cave, having no need of vision, have in course of time ceased to have eyes, the owl, also living in darkness, but living by sight rather than by faith, has developed a retina of remarkable sensitiveness. The new psychology, which is an experimental science, has developed some facts of value, which when applied may have a wide range of usefulness.

It was not fully realized until patient investigation along these lines brought it out more strongly, that the actual data which might be considered as representing the normal type of man had never been determined. Neither was it comprehendcd that the arbitrary standards which we had adopted as the sense limits, were susceptible under other conditions of almost limitless expansion. Instruments of unusual precision have been devised to explore the range of audition of vision, of smell, taste and touch, with a delicacy never employed before, and revelations of unusual importance have resulted.

It was discovered that individual differences existed, extending over a wide range in each special sense investigated; not only was the retina insensible frequently in its response to certain color tests, but the limits of audition were not rarely contracted.

In a well-known Cleveland editor the upper auditing register was entirely wanting, and while in ordinary conversation no difficulty of hearing was experienced, to him the shrill tones of a canary were as silence, and the voice of a cricket he had never heard. On the other hand, far from the centres of modern civilization, in Persia,

where the rarest rugs are woven, are those whose color sense is so trained from its constant discriminating employment—and possibly from generations of inherited visual refinement—that where the occidental eye sees but one primary color they distinguish with exactness two hundred shades.

Under the intelligent care of the scholarly Dr. Westerveldt in the Rochester School for Deaf Mutes are a number who have never heard. In these no obvious defect of the apparatus of audition can be discovered, but owing to some cerebral deficiency the nerve tracts or the auditory centres have never been developed. Such cases have until very recently been regarded as beyond possibility of remedy. But following a method first introduced in Germany, ear trumpets and ear tubes are employed, and the children are trained to listen. When the human voice is used through the conducting appliances the tones are not loud, but the little ones are impressed with the necessity of attentively listening.

The mental effort from within, and the tones from without, gradually succeed in awakening the sleeping fibres, not in a day, not in a month, not in a year perhaps, but gradually as time goes on the intelligent response in the child's eye shows that sentient vibrations have begun to energize the responding nerve, and when the voice of the patient instructor says through the tube "Mary, say mamma," and the little lips hesitatingly and uncertainly, but responsively, repeat the mother's name, a new principle has been evolved in physiological development the possibilities of which are beyond human prescience. Second only to the divine power of creating life is that of creating structure by the use of function.

Four years ago I had brought to me a child, a congenital mute, and I gave an unfavorable prognosis. The child was sent to the Rochester School for Mutes. I went there at the request of the child's father, the child being then seven years old. She was three when I first saw her. Dr. Westerveldt turned the child with her back to his face, so that it was impossible for her to see any motion he made, and repeated to her a number of words in not as loud a tone as I am speaking now. The child repeated the words after him again and again, not always with an apparent perception intellectually; it seemed as if there was still an intellectual development wanting; but the most astonishing fact to me was that she heard the tones of his voice distinctly when they were not loud. Mr. Westerveldt has kept a careful register of the pupils in his school, and he tells me that congenital mutes, under this process of educa-

tion, have, to the extent of 15 per cent., gained a greater or less amount of hearing.

Near the city of Philadelphia, at the little town of Elwyn, is another educational institution which is helping to solve our biological problems by the developmental method. This is the School for the Feeble Minded. Under the scientific direction of Dr. Ross are nearly a thousand defective children, most of whom are receiving a mental training that is gradually, but surely, bringing order where before was mental chaos.

An exact classification is made of all who enter, and a relatively small proportion is found so radically deficient from disease or inheritance that no attempt is made to develop the imperfect brain-cells, and from the better grades of idiocy astonishing indeed are the results of years of patient training. Every avenue is employed through which the brain can be reached. Rhythm and exactitude of motion are taught by the sound of the drum; military marching, drawing and sloyd, in which many become remarkably proficient, are used as a means to an end, and figures, for which some exhibit unusual aptitude, are carefully taught. By such means the mind is led out of its darkened chamber, and by the ways through which it emerges light comes in. Those who enter this, to them, enchanted palace come, most of them, with drooping, stupid mouth, lack-lustre eye and the general characteristics of imbecility, and five, ten, fifteen years after, as it may be, they go out in the world in not small numbers, never to be brilliant men or women indeed, but alive, where they were dead, and fitted to defend themselves in the battle with the world.

Here has been, indeed, another act of creation, such an act as takes place in the development of every child, but one not hitherto deemed possible where the starting-point was seemingly so insecure.

Still another school gives us an illustration from the opposite extreme that is startling in its suggestiveness. Catharine Aiken, preceptress of an educational institution at Stamford, Conn., arrived at the conclusion that quickness of perception was a necessary result of concentrated attention. As Macaulay educated his eye and his brain at once by recalling after he had rapidly passed a shop window as many objects as his vision had grasped, so this instructor, applying the principle that memory was the faculty merely of bringing back to the mind that which has been strongly impressed upon it, devoted a short session each day to what is known as glance work.

A blackboard in full view of the class has placed upon it certain words, letters, figures or designs that have no relevancy to each other. These are attentively studied by the eye for a short period, usually not more than three seconds. The pupils are then required to reproduce that which they have seen. The figures or designs are first exceedingly simple, but gradually increase in complexity as the student acquires greater facility from constant practice, until eventually exercises of astonishing length are accurately reproduced.

The following columns of figures were placed upon the blackboard, which was quickly revolved:

300
29
32
86
100

These were immediately repeated in the order in which they had appeared.

When this had been successfully accomplished the pupils were required to repeat the unit figures beginning at the top, then the tens, then the hundreds and so on. Those of greater proficiency were then required to repeat the column from the bottom to the top. Exercises of even greater complexity were given.

The following, with the marks and signs as they appear, was placed upon the blackboard:

$$\overset{\cdot}{9}\overset{\vdots}{6}\overset{\cdot}{2}\underset{\vdots}{5}\overset{-}{3}\overset{\cdot}{4}\underset{\cdot}{7}\overset{\vdots}{2}\underset{\vdots}{5}\overset{\cdot}{9}\overset{\cdot}{3}\underset{\cdot}{7}\overset{\vdots}{4}\underset{\cdot}{0}\overset{\cdot}{0}\underset{\cdot}{1}\overset{+}{9}\underset{\vdots}{8}\underset{+}{0}$$

This, after a single glance, was repeated as follows:

9, two dots above; 6, 2, 5, three dots below; 3, minus sign above; 4, one dot below; 7, 2, plus sign below; 5, three dots above; 9, 3, 7, one dot below; 4, 0, two dots above; 0, 1, 9, one dot below; 8, plus sign above; 0.

It is impossible to believe that even unconsciously—if it be not a contradiction in terms—with a single glance, individual discrimination could have been made of that complicated retinal picture. To repeat it even mentally with the greatest rapidity takes much longer time than had been used in looking at it. It could have been accomplished only by almost instantaneous retinal photography, and the picture so received was fixed by a single concentrated act of the mind, leaving a mental print which was read as clearly and as easily as the printed page.

The phenomena of the Roentgen rays are not more astonishing nor more inexplicable than this.

Elmer Gates, the well-known psychologist of the city of Washington, has demonstrated by actual experiment the effect produced upon the brain by this action of the mind through the eye.

A litter of shepherd puppies was absolutely secluded from light from the time of their birth. Triple doors guarded the room in which they were confined. When they were nine months old they were chloroformed, and their brains, spinal chords, ganglia and eyes prepared for chemical and microscopical examination. A second group was allowed to grow under normal conditions, and when nine months old they were then treated in like manner. A third group was subjected to prolonged training of the seeing functions.

Most ingenious methods were employed. The hall leading to one room, the laboratory, was covered with squares of metal which were colored. To those of one color the electrodes leading from an induction coil were attached. Very soon the animals learned that the red plates gave an uncomfortable sensation, while the green did not. Then the colors were changed to blue and yellow, and so on until the color sense was so highly educated that they could quickly discriminate between colors and shades. Other methods of equal nicety were employed in this canine color school. The brains of the three groups of dogs were then examined and the following general results established:

"Those animals to whose eyes light had never come exhibited an undeveloped cortex in the occipital seeing areas. The second group, which had been allowed to lead a usual life, had a more highly developed cortex in this same region; it was thicker, more vascular, with arteries, veins and lymph channels, was more gray and had a greater number of brain cells. The former group could not be said to have brain cells in the seeing areas, so undeveloped and few were they, while the second group had well-developed brain cells in the usual number for a dog. The brains of the third group had a much more highly developed cortex than the second group; it was more gray, thicker, far more vascular and had a much greater number of brain cells, and the brain cells were much more highly developed. In all cases deprivation of a mental function was accomplished with a lack of structural development in the corresponding part of the brain, and excessive training of that function was ever accomplished with extraordinary development of the special elements of that part of the cortex."

There is a race of bushmen in South Africa who are said by travellers to have telescopic vision. A lion is recognized while he is still far beyond the limits of ordinary vision. This visual development is derived, according to Herbert Spencer, through necessity. If this be true, and it seems to have been well authenticated, it suggests possibilities of development of greatest importance. Corneal curves are not constant factors, astigmatism is not a stationary process, kerato-conus is not a congenital stigma, the extension of the sclera in progressive myopia is an abnormal and diseased condition, the limits of development of the extra- and intra-ocular muscles have never been scientifically determined.

Is it not wholly possible that there may be a reaction in the near future, and that in the young subject at least methods may be devised and systematically and scientifically followed through which, by proper use and proper habits, we may renounce our efforts to rest and relieve the tired eyes by the use of ocular crutches in the shape of spectacles of whatsoever device? and that we may strive to develop the immature organ until it reaches more nearly the complete standard of normal development? making personal effort take the place once more of mechanical contrivances and granting to the nerves and will yet greater governing power?

Discussion.

Harold Wilson, M.D., Detroit, Mich.: A paper like this does not point to the remedy in the cure of a disease in the ordinary sense, but suggests rather a remedy in the development of the human race. In listening to Dr. Lewis's paper, I could not help wondering whether, after all, it was really worth while to apply the remedy in all cases. The principle is beautiful. The labor which is expended in the development of intelligence in idiots is worthy of our respect. I question whether it is worthy of our entire commendation. I do not believe that human life, as mere human life, is so valuable that where it exists, in however degraded a condition, it should be our end and aim to preserve and educate and foster it. This may sound unchristian, it may be heretical, but I believe it is the natural and rational feeling. It is true that some idiots have learned to be less idiotic. Some of them have even learned to take care of themselves, and all this shows very beautifully what education can do. I do not wish to be unduly critical, but incidentally I should like to propound the query as to whether all this labor is in the end of real value to the human race, however beautifully it may illustrate the possibilities of awakening the dormant functions of sensation, or the traces of intelligence. In respect of cultivating the sense of hearing, if children cannot be made to hear enough to be of practical value to them, I am not certain that the labor of years on the part of their instructors or their parents to enable them to have the

obscure sensation of sound is justified. Yet so far as the paper suggests the value of education as applied to the development of the special senses, it may point to a useful remedy for many conditions that come under our observation, particularly certain affections of childhood, and if we can by education overcome these difficulties, we may succeed in doing what we cannot do by therapeutic methods of any other kind.

C. F. STERLING, M.D., Detroit, Mich.: The same idea occurred to me, but I took Dr. Lewis's paper as suggestive, viz., that if so much can be accomplished by these methods which Dr. Lewis has indicated, in these poor feeble-minded creatures with their limited faculties, what may not be done if the same means are applied to the education of those with nobler endowments. I do not consider that the point of the paper is to urge new methods of educating idiots, but that they are the tools, or rather the material upon which the new tools are being tried. If so much may be done with them, we can in the future reach a higher plane in the development of more suitable subjects. In other words, the paper is tentative. I do not feel competent to go into the subject in detail, but if there are those here who are familiar with the matter, I should be very glad to hear from them.

W. A. DUNN, M.D., Chicago, Ill.: This paper, I am sure, is of very great value. I wish myself to specially commend the work that is being done by these painstaking people all over the world in regard to the psychological development of children especially; this, to my mind, is one of the most humane efforts of the sympathetic people who devote their lives to this class of work. I do not like to hear any one say that because a child has but little brain it is of no use; I think it is a very narrow and unchristian manner of speaking; I believe we are all born for a purpose and that even if we be poorly developed, we have an object in life, even if every one does not see it. I have always remarked the affection and love of a mother for an idiot child, and I believe that it is as great in those cases as in that of the most highly developed brain. But this work will tell in the future; there is much to be done in this way. We are all born with brains that must be educated.

The doctor did not speak of the imperfections in speech. Many times the speech centre itself is destroyed, and wonders are accomplished in the development of the speech centre by the educational method. I think it is a great study and I hope it will be encouraged by all physicians.

C. G. FELLOWS, M.D., Chicago, Ill.: I was just going to ask Dr. Lewis if there isn't a possibility that suggestion of one mind to another helps these children to talk or speak or hear rather than actual development of the physical functions? We are reading a great deal now about the objective and subjective mind, and the possibility of suggestion. I believe this paper is in an exceedingly

valuable line, and we are going to hear more of it in the next five years; isn't it possible that those children are learning from one to the other, without any earthly relation of place or time or process of development of the physical hearing apparatus, but by the power of one mind over another.

W. A. PHILLIPS, M.D , Cleveland, Ohio: This question is one of profound interest. While it certainly is not of any practical value in educating a lot of idiots, it does show the remarkable influence of education and habit in the education of the mind, and this is interesting to us because it is new in a way; while we see every day a little child rapidly developing, we think nothing of it because we are so familiar with it. If it were a fact that a large amount of money and a great number of people were being employed in this work, I should agree most emphatically with Dr. Wilson that it is lost time, because we see in all our public schools a great work to be done that is of vastly greater importance. We see our students day after day losing their sight in consequence of a bad school system during early life, thus preventing them from subsequently following occupations that will give them support.

R. A. DAVISON, M.D., Flint, Mich.: I wish merely to suggest that we, as physicians, should do all in our power to place restrictions around certain people that have no right to bring children into the world.

E. H. LINNELL, M.D., Norwich, Conn.: A very interesting example of the result of such treatment as Dr. Lewis has referred to has come to my attention within the last two years: A lady brought to me a child, about 2 years old, who not only had manifested no sign of intelligence, but was apparently absolutely blind and absolutely deaf. The loudest sound produced no response from the child, and there was no response from light stimulus, but still, in examining the ear and the eye, as well as I could under the circumstances, I was satisfied that as far as the external and middle ear was concerned, and as far as the retina and optic nerves were concerned, as seen by the opthalmoscope, the structures were entirely normal; and I came to the conclusion that the conditions, as far as seeing and hearing were concerned, were what I should define as soul blindness and soul deafness, that is, the visual and auditory impressions effected no intelligent conceptions in the cells of the cerebral cortex. Under similar treatment as that outlined by Dr. Lewis the improvement of this child, although slow, has been very marked. She now sees and hears perfectly, and she is five years old. She has developed an astonishing fondness for music, and she has learned to use her hands and to go through many exercises with them. She doesn't like to do these things; she is evidently very lazy and very obstinate, but she can be made to do them. Now I am watching, with a great deal of interest, an experiment with hypnotic suggestion. So far it has not been possible

to hypnotize her. It has been suggested to the mother ofthe child that, if she can be thus influenced, by means of suggestion her mental powers may be awakened and development stimulated. I doubt very much if it is possible in her case, but I am very much interested in watching the result of the experiment.

R. S. COPELAND, M.D., Ann Arbor, Mich.: I was very much interested in Dr. Lewis's paper. There was no phase of the question that has not been touched; he spoke of development of function. Now, there is also something in which we are interested, loss of function, where for some reason a child becomes partially or totally deaf; the question is what are we going to do with such a child when he becomes so hard of hearing that it is a burden to talk to him? Many times such a child is placed in an institution somewhere and taught a sign language, and loss of function becomes complete; and it seems to be a mistake to do that. The child should be taught to listen to the voice and sent to school; perhaps, placed near the teacher, where the child can hear the voice of the teacher, and in every way possible made to listen to sound, and in that way function preserved, while at the same time treatment is necessitated and carried out by the physician to remove the cause of the deafness if possible. I think it would be well if we had the time to discuss this phase of the question.

F. PARKE LEWIS, M.D., Buffalo, N. Y.: Last year I had come under my notice a case of kerato-conus which had undoubtedly developed within two years' time. The patient was rapidly losing her vision. She received proper correcting glasses and constitutional remedies, and up to the present time the ectasia has been absolutely stopped in its progress. The compass of my paper, and everything with regard to the development of the eye function, was merely to make more clear the fact that if function precedes structure, if we can make new structure by using the functions which we possess, it is possible we have a wide field in a new method of treatment. I simply wished to demonstrate that, having two points, we may project a straight line to infinity. It is a question whether our use of glasses for the relief of conditions that exist may not prevent the development of the organ itself; in putting growing children in glasses, may we not prevent the structure of the eye from accomplishing what it ought to accomplish? Might it not possibly be better to take the child from school and do other things that it might seem wise to do for the purpose of developing the structure rather than allow the condition to go on while we are giving it relief sufficient to enable it to do its work. That was the chief point I wished to bring out.

It is quite possible that Dr. Fellows was right in his idea of suggestive therapeutics. That I do not know, and I do not think it matters materially. The chief point is that by use of function we get new structure. If that be true, it may modify our views in regard to the operative and auxiliary relief treatment in certain conditions of the eye. That is all I wish to bring out.

Some Reflex Disorders Dependent Upon the Nose and Throat.

By C. Gurnee Fellows, M.D., Chicago, Ill.

In selecting this title I expected to give a running *résumé* of all the reflex disorders dependent upon the nose and throat, and to do it in a comparatively short article, but I soon found that the cases so multiplied, and the clinical evidences so increased, that the paper would grow to such dimensions as to be too long for the present occasion.

A mere catalogue of the various possible reflexes would mean a considerable list, and it is only necessary to mention the names of a few diseases to call to your minds a host of similar parallel cases in your own practices.

The explanation of the reflex diseases caused by irritation within the nose or throat is comparatively simple when studied through the nervous system in the light of modern anatomical research, but it is undoubtedly true that too much is claimed by some physicians as to the importance of the nose as well as other special organs in causing these multitudinous reflex manifestations. So that I do not wish to be misunderstood in claiming that the nose or throat or eye alone can be held responsible for all of these disorders, but that occasionally each in turn becomes a cause, just as the liver, the rectum or the uterus in other disorders.

Furthermore, I believe that there are physicians who allow too little recognition of the possible reflex disorders arising from the upper hemisphere.

"The medulla oblongata is the vaso-motor centre which controls the innervation of the blood-vessels; it is also the co-ordinating centre of all reflex action necessary to the maintenance of life, and these physiological functions can be disturbed by the irritation of any sensory nerve of the body. The juxtaposition of the medulla with the spinal cord and all the nerve ramifications, not only to organs of spinal sense, but also to the locomotive and organic systems, shows how far reaching could be the results of any disturbance of its physiological function." (White.)

The peculiar vascular construction of the nasal mucosa, its erectile character and the location of the nasal organ, together with its physiological function, make it eminently liable to irritation, and such irritation may or may not be followed by direct and reflex results as surely as effect follows cause. The anatomical connection can be traced and clinical cases multiplied indefinitely to show such reflex phenomena in the eye, ear, throat, lungs, skin, muscular and general nervous systems.

I do not care to claim that because certain distant organs are in a diseased condition that any pathological condition present in the nose is always a cause, for the two may often coexist independent of each other. But occasionally, other supposed causes having been investigated and removed, there still remains an effect, and if there is some pathological condition present in the nose or throat, it is quite proper to explain it as the cause of such an effect. In such a case "*post hoc* is *ergo propter hoc.*"

Among the common reflex disorders is asthma, due most frequently to nasal polypi, and less commonly to hypertrophies of the turbinates, sensitive spots, etc. Hay fever is not always, but very frequently, the result of an intra-nasal disease. Hemicrania, supra-orbital and ciliary neuralgia, vertigo and cough are so frequently relieved by our treatment that we accept it as a recognized fact that they are often due to intra-nasal causes. The fact that epilepsy or epileptiform seizures are due to, or dependent upon, nasal causes, has not been so clearly proven; but there are records of cured cases in a good many journals, and some of them not even of recent date. I do not care to claim that epilepsy may be cured, but my experience and observation seem to prove that it may be decidedly ameliorated by attention to the nose or naso-pharynx when distinctive trouble exists. A recent case will illustrate:

A child about three years old had always suffered with very severe attacks of epilepsy, lasting from one to three hours and frequent in their return, never allowing an interval of longer than six weeks. I operated upon the child for stenosis of the nose, and removed a large quantity of adenoids, predicting at the time that it probably would have some effect upon the epilepsy. There has been but one attack in six months, the child's health improving in every way since the restoration of nasal breathing.

Other cases could be easily cited, but I leave them to be brought out by discussion.

I never thought of muscular rheumatism as being dependent

upon nasal causes until such cases obtruded themselves upon my attention, since which time I have seen a good many cases complaining of muscular soreness, stiffness of the joints and other symptoms rheumatoid in character, to be entirely dependent upon a catarrhal inflammation of the respiratory tract.

Coming nearer to the seat of the disease, asthenopia, errors in refraction, conjunctivitis, swelling of the lids, twitching, etc., have been found to be often unrelieved by anything but intra-nasal treatment.

Within the nose we find proof of the intimate connection with the sexual sphere, as proven by vicarious hæmorrhage.

Neurasthenia and hysteria, dependent upon an obstructed breathway, are of frequent occurrence, and although not entirely dependent upon such a cause, are frequently wonderfully relieved by local treatment, and this leads the way to better results in further constitutional treatments.

We sometimes find results for which we are not looking, and we find diseases in other parts of the system disappearing, of the existence of which we were not aware until informed by the patient that it had disappeared in the course of time, as, for instance:

I recently operated upon a boy for the removal of hypertrophied tonsils and adenoids, in order to render his breathway free; but the parents informed me afterwards that the child had been suffering from eneuresis in a chronic form, which had baffled the skill of several good prescribers, and that had disappeared entirely and at once, following the operation. The results are now permanent, a year having passed.

Some two or three years ago I suggested that croup and spasmodic laryngitis were possibly due to causes within the nose and throat, and since that time I have had considerable experience with croupy children, and notice that croup or croupy cough will disappear to a great extent after operations upon the naso-pharynx, or after treatment; and I have also found that spasmodic cough and spasms of the glottis in adults will disappear from similar treatment.

Lennox Browne claims that a very high percentage, if not all patients, affected with croup or glottic spasm, are amenable to cure by the removal of adenoids or other obstructive diseases.

In thus mentioning a few of the manifestations of disease, or, at least, symptoms of disease, I have called attention to a subject full of interest, I believe, and although I have not proven anything by the elaboration of cases, I hope the discussion will develop some-

thing which will help us all and add to a better knowledge of the treatment of disease, not from one phase only, but from the practical standpoint of the general physician.

DISCUSSION.

D. A. MACLACHLAN, M.D., Detroit, Mich.: The speaker speaks of cases of croup disappearing after operations upon the nasal passages. I do not understand that he speaks of what the operations are and what they were intended to relieve; it rather gives the inference that all cases of croup should be operated upon for some nasal trouble, unless I misunderstand the paper. Perhaps the secretary will correct me.

DR. FELLOWS: It was only for pathological obstructions within the nose. We operate for that purpose, and the croup disappears.

E. H. LINNELL, M.D., Norwich, Conn.: The subject of reflex disorders is a very interesting one, and we can all see instances of it in our practice, especially instances of reflex ocular disorders dependent upon nasal obstructive lesions, and cured by removing the same. The other side of the question is not so much dwelt upon as it ought to be: it is a fact that these same ocular reflexes are sometimes aggravated by the operations which are undertaken for their relief, and in other cases a nasal operation is the primary cause of ocular neuroses.

A lady came to me some time ago with marked asthenopia of many years' standing. I examined the case and found enlarged turbinated and septal spurs on either side. I found they were quite sensitive, and touching them produced pain in the eyes. I felt justified in operating upon them, and the operation was followed by very marked diminution in the vision of the right eye. The sight was perfect at the time of the operation, although there was a good deal of asthenopia. For a month or six weeks there was a very marked diminution of sight. She recovered from that and ultimately derived benefit from the operation. The asthenopic symptoms are relieved to a considerable extent. That is a point we ought to bear in mind, that there is danger of aggravating these reflexes or even causing them by operations upon the nose.

E. W. BEEBE, M.D., Milwaukee, Wis.: I have a case under treatment at the present time which is probably of reflex origin.

About ten days since I was consulted by an intelligent middle-aged English woman, who complained of severe pain in and about her eyes, for which she had been under treatment continuously for a year and a half by some of the best oculists of our city, without relief.

An examination of her eyes revealed nothing save a moderate amount of myopia, and thinking possibly it was a case of reflex irritability, I questioned her regarding nasal disease, and she de-

clared she had none; but an examination showed hypertrophy of the right inferior turbinate, and a septal spur opposite, producing partial stenosis of the nostril.

In order to determine whether her sufferings were due to this condition of the nose or not, an application of Cocaine was made to the parts involved and after a period of ten or fifteen minutes she expressed herself as greatly relieved of the pain in her eyes.

With a view of operating at a more convenient date, Chromic acid was applied, and on her return, five or six days later, the pain in her eyes had nearly ceased and many of the attending nervous symptoms with it.

THOMAS L. SHEARER, M.D., Baltimore, Md.: Speaking of the effects of adenoids upon epilepsy, Dr. Harrison Allen, of Philadelphia, has lately contributed something towards the literature, in which he takes the idea that it is not entirely a reflex phenomena; that the lymphatics of the post-nasal region communicate with the intra-cranial lymphatics, and that by restoring the lymph circulation in these channels, by removing adenoid growths, the intra-cranial lymph pressure is lowered. When the lymph pressure is greatly increased it is capable of inducing nervous attacks just as surely as increased arterial pressure within the skull can do so.

C. J. SWAN, M.D., Chicago, Ill.: It seems to me that in these cases of epilepsy that are reported cured by operations either upon the nose or throat or upon the eye or rectum, that a differentiation ought to be made between true epilepsy, Jacksonian epilepsy and epileptic forms of spasms and hysterical conditions. I think many cases of epilepsy are cured by operations—we see cases that are cured by operations upon the rectum where possibly there is no rectal trouble; we have all heard of these cases; I think those are largely hysterical cases, and in making our reports, I think these cases ought to be carefully differentiated. I do not think any case of Jacksonian epilepsy has been cured by an operation upon the eye or nose and throat, and Ranney, in reporting, fails to make any differentiation, everything is simply "epilepsy."

WESLEY A. DUNN, M.D., Chicago, Ill.: Epilepsy is epilepsy, and hysteria is hysteria. There are similar symptoms, but I do not think it should be very difficult to distinguish between epilepsy and hysteria. I have had one case in which there was undoubted epilepsy for a number of years that has not had an attack for about a year and a quarter since removing a very large inferior turbinated body on each side. She had them up to that time and never had gone for a month of time without having an attack. I believe this was a true case of epilepsy. This is a very common origin for reflexes, not only in the nose, but in the throat as well. Some interesting cases may not be out of order. I remember once an actress who lost her singing voice, which was due largely to a nervous condition, in this way: When she sang in a hall before her

audience she completely lost control of her voice, was unable to sing, would completely lose the singing voice, but when she was in a room by herself she could sing all right. This naturally was a nervous condition, but it had its origin in a hypertrophy behind the tonsils on the sides of the pharynx. This I removed, and she was immediately cured of her nervous condition as well as the voice trouble.

I lately operated on another case of the same kind, where the reflex was a spasm of the larynx. The woman would get a choking spasm and would be very much exhausted by it. It was hypertrophic pharyngitis. I have a pair of scissors made for the purpose of removing these growths. I used to remove them with the cautery; that is a very painful method and the after-effect is pretty severe.

THE CHAIRMAN: Describe the scissors.

DR. DUNN: The cautery frequently sets up a good deal of inflammation, but with the scissors there is never any after-suffering. The cutting part is a little over a half-inch long. They turn at absolute right angles, with a long handle, and the handle turning down so that your hand is entirely out of the way. You grasp the tissue with a long pair of forceps near the bottom and cut upward. It is easily done, no trouble comes from it at all. You only cut the mucous membrane; you must take the mucous membrane all away and you get a very nice result. I have been practicing it a number of years and with very great satisfaction.

I remember a case a good many years ago that was a complete nervous wreck. She had been operated upon *per rectum, per vaginam*, and otherwise, but nothing had relieved her. She came to me six or seven years ago, and the only thing I could see about the throat was the hypertrophies. I removed them with the cautery and her general health improved right away, like all these systematic reflexes, and she has been another woman ever since. Sometimes a little spot in the throat gives off a far-reaching reflex, when it reaches the solar plexus then you have the general malnutrition as she had.

Another case of reflex originated in the tongue, producing spasm of the larynx. A hyperæsthetic spot on the tongue about the size of a pea or less. This was so extremely irritable that every time the patient was in a dusty room, or the slightest crumb of bread got on that spot, it would produce the most violent spasm of the larynx; she would get black in the face, and the symptoms were sometimes extreme. It was all relieved by the removal of the hypertrophic spot. When we talk about reflex, you are frequently at a loss to know the particular spot. Of course, sometimes you can locate irritation in a certain spot as the woman could locate the spot on the tongue, but many times we have no local symptoms giving the site of the irritation and only get the reflex symptoms in violence. I am always careful in operating upon all cases of reflex disorders to

make it clear to the patient that it is possible it may originate from more than one place, or that this spot may not be the place at all. You want to be careful about the promises you make when you operate upon one organ for the relief of another.

In the case of adenoid growths and other posterior hypertrophies the results of removal are marvellous.

R. S. COPELAND, M.D., Ann Arbor, Mich.: I realize fully the importance of the subject. There is one point he raised I think worthy of some discussion; that is, the relation existing between the sexual sphere and the nose and throat. I suppose every physician has noticed sometimes in pregnancy loss of voice; and I had under my care a patient who suffered from periodic attacks of acute rhinitis, like hay fever in its nature, and I used all sorts of local treatment and tried to find the indicated remedy, and the patient stayed with me a long time; but I dismally failed in giving that patient any relief, and finally I suggested that she go to a specialist in diseases of women. She complained of dysmenorrhœa, and under the treatment given her, in a very short time, she was completely relieved of those periodic attacks of rhinitis; and I cannot help but feel that in that case the nasal trouble was reflex from a uterine trouble; and I have wondered sometimes, where women have been exposed to the weather and have gone home and complained of taking cold, sometimes that exposure has been coincident with a long walk or a very tiresome ride—I have wondered sometimes if possibly there might not be some uterine congestion that accounted for the rhinitis. At any rate, I have noticed in many cases an intimate relation between the sexual sphere and the nasal.

F. F. LEHMAN, M.D., Sandusky, O.; I would like to ask Dr. Fellows a question: What was the age of the patient whom you cured of asthma by tonsillotomy?

I have on hand a young man of nervous temperament, about 27 years of age, a young merchant, who has for many years been troubled with an asthma or hay fever from the 6th of June to the 10th of August every year. Last year, after an examination of the case, I discovered in the nose what I thought was a sufficient pathological lesion to account for the disturbance, and I asked him to go to a nose specialist. He did so, had several operations performed, and during the latter part of last summer, when he expected the paroxysms to recur, he was entirely free; in fact, he considered the operation a great success, and thanked me again and again for having referred him to the specialist. I thought the case was cured. On the 6th of this month he came to my office with the worst case of asthma I ever saw; nothing would relieve him but hypodermic injections of morphine. Evidently what might have been heralded as a cure in this case has been proved not to have been such. If Dr. Fellows's patient was near the age of puberty perhaps his cure may have been consequent upon that fact.

HAROLD WILSON, M.D., Detroit, Mich.: Unfortunately this sub-

ject is still in the stage of pure empiricism so far as I am able to judge. We find specialists of all the special organs claiming to cure nearly everything. There is surely something back of their claims. Where there is so much smoke there must be some fire. What we want is some one who can deduce from the mass of clinical evidence already in hand, bearing upon the relation of diseases to distant organs, a general law covering all the phenomena that have been observed. I know of no way by which I may definitely determine that a certain symptom is due to ocular reflex, and the orificialist and the laryngologist are in precisely the same state of ignorance. I am satisfied, if we had a general law which we could apply, we might be able to determine at once what now we can only determine after a more or less laborious clinical experience, namely, whether the symptoms of a given case are reflex, and from what organ.

I want to make one observation in regard to the cure of epilepsy. Personally, I am sceptical as regards the clinical evidence of cure in any case of epilepsy, unless the cure claimed is of several years' duration—I will not say precisely how many, but at least three or four, in my judgment, should elapse before the patient should be considered cured, and even then the same doubt might exist. We know, in regard to these epileptic cases, paroxysms have ceased after various indifferent operations which, so far as we can see, have no definite relation to the epileptic condition. Patients have been relieved for a year or more by mere incisions into the skin, and even the simple administration of chloroform has been followed by the same results.

C. Gurnee Fellows, M.D., Chicago, Ill.: The paper was purely suggestive; I do not claim anything, or care to, as to the law. We are getting at the law now, we will have it in ten or fifteen years; the discussion of our clinical cases and the bringing together of ideas and the seeking after the truth will develop a law.

I do not claim at all that epilepsy can be cured; I do not wish to be understood so. I simply operated upon the nose for the removal of adenoid vegetations for an obstructed breathway. The child was epileptic, and it has only had one spasm since the operation, and I believe the operation had something to do with it. Now, if we get a hundred cases or a thousand or five thousand similar cases in the next five years, we will get some idea of what can be done. I believe that Stevens is altogether too radical in pretending to cure epilepsy by operations upon the eyes, and Pratt by operations upon the rectum. But it is our duty to look into every possibility as to diseases in our line of work, and between us, if we can cure our patients, that is what we are after. It so happens that I have a great many patients who have no family physician, they have a specialist for the eye and ear, a specialist for the throat and lungs and so on, and between us all we keep them in pretty good shape. If they come to me, and their trouble is not in my line, I turn them over to some one else and the patient gets the benefit of it.

Dr. Lehman asked me about the age of the patient upon whom I operated for enuresis. It was a boy nine or ten years old. He had had a number of physicians and the best Homœopathic prescriptions that could be given for several years. I knew nothing about the enuresis existing; he had a pair of tonsils that lapped over and caused a projection on each side, very large tonsils and adenoids in behind them; I took them out with no earthly idea of curing anything else. The patient told me he was cured, and from that day he slept without wetting the bed up to now, which is a year. As to claiming that all cases of croup or laryngeal spasm can be cured by operations upon the nose or naso-pharynx I do not wish to be misunderstood. When an obstruction exists within the nose and the patient has croup, and keeps on having it, and you operate upon the adenoids or the upper air-passages, and the croup disappears, I believe that *post hoc* is *propter hoc;* but we have other cases that have croup, and they are not curable by operations upon the nose or naso-pharynx. I have a lot of failures as well as the doctor, and I think there is a possibility of good from our failures.

I have looked for cases of asthenopia along with the balance of the ocular symptoms. Some patients have every point attended to, and still they have asthenopia. Those belong to the cases that are at present incurable, but may be cured if specialists bear in mind that if a local condition exists pathological in character it should be attended to, and between all the specialists we bring about a cure. I believe now in dividing them up; at the same time I believe we have too few general practitioners. We ought to have a great many A 1 general practitioners. I believe that general practitioners should have experience before they start out so that they won't be one-sided monomaniacs.

On the Use of Colored Papers in Testing Color-Blindness.

By Harold Wilson, M.D., Detroit, Mich.

The methods to be adopted in the examination of the color sense vary with the purpose for which these examinations are made. They are usually made to determine the fitness of candidates for employment in railroad service or in navigation. These constitute the every-day, practical or commercial tests. We may also investigate the color sense from a purely scientific standpoint without direct reference to the practical aspect of the results reached.

In the former case we have to deal with a comparatively simple question, viz., the ability of a given candidate to distinguish and name the various colored lights employed as signals by railroads and ships, under all the varying conditions of fog, rain, snow and distance under which these lights may be met. In such cases the natural and perhaps only final method of examination involves the use of lights colored to correspond with those in actual use, under conditions which imitate those to be found in actual service.

Other methods may be used with these as auxiliary, and many tests have been devised for this purpose. It is somewhat astonishing, however, to observe that the majority of these tests, which for the most part have been proposed as all-sufficient and practical, are both inadequate and imperfect. The purpose of any practical test is to prevent the employment upon railroads or ships of all persons who cannot accurately distinguish and name signal lights under all the circumstances of real service.. No candidate whose employment might be dangerous to the public welfare ought to be able to pass a proper examination without detection. Yet this very thing has happened more than once at the hands of railway and ship surgeons, and color-blind locomotive engineers and seamen have been allowed to imperil the lives of thousands of travelers.

The second purpose for which color examinations may be made, is, as has been said, the purely scientific. These examinations have for their object much more than the mere determination of the examinee's ability to distinguish signal lights, and the extent to which

they are carried, that is, the thoroughness with which they are made, is entirely at the discretion of the examiner. We may employ the spectroscope, colored wools, glass, silk, paper, enamels, polarized light, colored letters, twin colors, or, in short, any method, provided only that its capacities and limitations are clearly understood. Of course, these methods are not all equally valuable. For scientific purposes, the spectroscope is unqualifiedly the most useful, and its proper employment leaves little to be ascertained by other methods. Unfortunately, it is not usually available. The most common test consists of colored wools—Holmgren's or some modification—arranged upon the basis of the Young-Helmholtz theory of color. Without denying the great value these tests possess, or the service they have rendered the public safety, it is only fair to state that many color-blind persons, either naturally or by training, are able correctly to assort the wools of Holmgren's test, and thus to escape detection. Moreover, it can be shown with a fair degree of certainty, that the Young-Helmholtz theory is not competent to explain many of the demonstrable facts of color vision; in consequence of which it follows that tests of the color sense based upon this theory are sure to be imperfect in some particulars. The use of colored papers in the construction of a test for color-blindness is by no means a novel matter. Indeed, next to wool, paper is perhaps the most common material employed for this purpose.

One serious defect is common to all the tests now in use. It is a defect which pervades nearly all the studies of color and the color sense heretofore made, and one which has served to render progress in these studies very difficult. This defect is the universal lack of agreement as to color nomenclature. In tests for color-blindness, the colors employed are often of a purely miscellaneous sort, that is, in respect of their precise nature, having their origin in the whims of manufacturers, or a capricious public taste, and being necessarily unrelated to each other upon any definite system.

As to the names of colors, we have here even a greater state of confusion. Human intelligence will hardly suffice to obtain the definite mental image of a color called "Elephant's Breath," from the contemplation of the name alone, and how are we to know that "Topia" is a beautiful brown; "Bolide" a shade of yellow orange; or "Ashes of Roses" a broken violet red. But even where we may have a reasonable understanding as to what the name stands for, and may be in general agreement concerning it, there is much indefiniteness as to the precise color it represents. Thus, vermilion

from the best manufacturers may contain from 50 per cent. to 80 per cent. of pure red, and burnt sienna from 1.25 per cent. to 25 per cent. of pure red, so that different tubes of these colors might vary greatly in hue, though sold under the same name. If it should happen, then, that we found a color-blind person confusing vermilion and burnt sienna, you see how indefinite this statement of the fact would be. It is easy to see how all studies in color have suffered from this lack of uniformity in color nomenclature. In the subject under consideration, for example, it is perhaps doubtful if any of the sets of Holmgren's wools in ordinary use in this country are identical with the original series, even so far as the confusion colors are concerned. From a scientific point of view, this is all very much to be regretted, and an effort should be made to reach some general agreement as to color nomenclature. When this can be secured, and not until then, will proper progress be made in color studies.

For the purpose of escaping from the ambiguities which now envelop color nomenclature, and from the difficulties into which these necessarily lead, we must have some definite and scientific basis which can be universally adopted. Such a basis seems to be offered by the Bradley system of color study, which is here commended as the most proper ground-work for all studies in color. Its adoption in the systematic study of color-blindness has not been heretofore recommended,* so far as the writer knows, but this is one of the applications of the system most naturally suggesting itself to the medical mind. A test constructed on the principles of this system would at least be free from the ambiguities of nomenclature common to all tests now in use.

The color papers of the Bradley system have been prepared in the following way: Six points have been selected in the solar spectrum, each one representing the most characteristic and intense expression or feeling of the particular color in which it is situated. Their exact position in the spectrum is indicated by their wavelengths: Red, 6571; orange, 6085; yellow, 5793; green, 5164; blue, 4695; violet, 4210. Having located and established these six spectrum standards, pigments have been prepared to give the best possible imitations of them, and paper is coated with these colors, the resulting series representing then, as nearly as may be, the solar spectrum standards. To be sure, these colored papers fall far short of the spectrum colors themselves, but they are the best imitations

* In *Color in the School Room*, by Milton Bradley, the attention of teachers is called to the usefulness of the color papers in this particular.

that can be made, and are definite and uniform. From these pigment standards intermediate colors are prepared, and a series of pure spectrum colors is formed as follows: Red, orange red, red orange, orange, yellow orange, orange yellow, yellow, green yellow, yellow green, green, blue green, green blue, blue, violet blue, violet. The mixture of red and violet gives, in addition, red violet and violet red. From this series of eighteen colors, four other series are derived by definite admixtures with pure white and black. These are called tints and shades, respectively, and from the pure spectrum we have, finally, a total of ninety variations, each one easily and intelligibly named, and of a perfectly definite character. The nomenclature is simple; the standard colors are represented by their initial letters: R stands for red, O for orange, Y for yellow, etc. ROT1 means, therefore, red orange tint, No. 1; ORS2, orange red shade, No. 2, and so for the other colors.

Most colors in nature are not pure, but are mixed with varying quantities of gray. From this fact we get another series of pigmentary colors, in which the pure standards are mingled with determinate amounts of black and white. These form what is called the "broken spectrum," and a series of tints and shades is also prepared from these. These, with a series of "warm," "cool" and "green" grays, make a total of one hundred and thirty-four different hues in the list of colored papers manufactured.

The advantages of these papers in the study of the color sense are, then, primarily, uniformity and accuracy in the colors used, and in the nomenclature adopted for their classification. While they may represent the solar spectrum very imperfectly, and while improved methods in the manufacture of colors or the discovery of new pigments may modify the pigmentary standards and their derivatives, so that the Bradley color system is not fixed and invariable for all time, it has practically all of the necessary qualities of scientific accuracy, and is vastly superior to the common chaos in which the subject is enveloped. The processes of manufacture are uniform, so that all papers of the same nominal hue are identical. Sets of papers for any purpose may, therefore, be made in exact duplicate, and the records of different observers in any department of color science or art may be expressed in perfectly uniform and intelligible terms. Further, the material is very cheap, and if any colors have become faded or soiled by use, a new set may be readily substituted.

From what has already been said, the advantages which the

Bradley color papers offer for the construction of a test for color-blindness are sufficiently obvious. It is probable that the number of intermediate spectral hues might be increased with advantage. At least, a more complete test could thereby be secured.

It must be borne in mind, however, that the present series of colors is not suggested as a practical and sufficient test for the examination of railroad and vessel employees. For such purposes the use of colored lights will continue to rank as the pre-eminent practical test. Any other test, except the spectroscopic, is auxiliary and corroborative, and its election as a practical test is to be otherwise limited to those circumstances in which the lantern test is not available. In an emergency we may use anything, books, wall-paper, carpets or clothes.

The Bradley color papers may be arranged to constitute a test for color-blindness in any fashion the examiner may choose. The precise manner in which they are to be used depends somewhat upon the examiner's beliefs in the matter of the theory of color perception. If he believe in the Young-Helmholtz theory, he may arrange them in one fashion; if in the theory of Hering, in another, while if he is an adherent of Green's theory of "psycho-physical units" he may adopt a still different arrangement. In order to overcome certain difficulties arising from differences in the luminosity of various papers, they may have to be supplemented by such materials as silk or glass.

The series of cards constituting the test here shown, have been arranged without system, and simply embrace the complete series of the colored papers. The test colors are orange, violet, red and blue-green, used in the order given, and have been adopted as most likely to reveal color defects. So far as the purposes of the present paper are concerned, this particular arrangement is immaterial. My object has been, not to formulate a new test for color-blindness, but rather to call your attention to the present confusion in the classification and naming of colors, the bearing of this upon the scientific study of color perception, and the remedy for this confusion which is offered by the Bradley system of color study and the colored papers accompanying it. There is no aspect of ophthalmology more interesting than the study of color perception, and perhaps none in which careful study promises richer results. The adoption of a scientific basis, such as has been indicated in this paper, will certainly greatly facilitate such investigations and enhance the value of the results reached.

Discussion.

Robert G. Reed, M.D., Louisville, Ky.: This is an important subject, and one that has not received the proper attention from the profession, especially among practitioners, who are sometimes made railroad surgeons, although most of the railroad companies are sending their employees to competent specialists; still a great many mistakes occur in testing for color-blindness. A great many that are color-blind do not know it. They are color-blind for some colors and not for others. It would take an ordinary human being a long time to learn the colors to tell what they are. I do not believe that the naming of the colors is the proper way to test color-blindness at all. The colors, variations of colors, etc., should be placed in a pile, and the one undergoing the test should be required to select from the pile all that are red, for instance; all that are green, and so on. If he is color-blind for red, he will select other colors, especially when he gets into the different variations of colors; but in that way we will get a pretty definite idea of what that person sees.

Laryngo-Fissure for the Relief of Laryngeal Stenosis.

By W. A. Dunn, M.D., Chicago, Ill.

Case I.—Miss G., aged 18, applied for treatment, suffering with extreme aphonia, attended by suffocation. She had lost many pounds in weight; had been unable to speak except in a whisper for four years, and for the last few months had lost flesh from lack of proper oxidation; she was otherwise in good health.

An examination showed the larynx to be filled with papillomatous growths to such a degree that it was almost impossible for air to enter the lungs. Complete effort of the respiratory tract was brought into play, in order that she could be supplied with sufficient oxygen to carry on the nutritive function. When she slept the breathing was extremely difficult.

Hoping that I might be able to relieve the larynx by intra-laryngeal operation, I made several attempts to remove the growths with laryngeal forceps. I found, however, upon removing the superior portion of the tumors, that they sprang up more rapidly from the bottom and quickly refilled the larynx. After two or three weeks of unsuccessful effort in this direction, it became necessary for her to return to her home in Butte, Montana.

When she returned to me a month later, she was in a similar condition to her first appearance for treatment. I was convinced that the intra-laryngeal method would not be successful in her case, and at once decided to remove the growth by laryngo-fissure or thyrotomy. Placing the patient under the influence of chloroform, I made a free opening through the tissues, exposing the full extent of the thyroid cartilage. I then opened the thyroid through its entire extent, exerting every care to make the incision directly in the anterior centre of the thyroid cartilage. Immediately upon opening the thyroid the tumors pressed through the opening, on account of their extreme size and tension on the walls of the larynx. By retracting the walls of the thyroid I was able to exactly locate the different tumors forming the mass in the larynx, and to remove each tumor separately by the aid of the electro-cautery snare, with but slight hæmorrhage. After removing the greater portion of the

tumors that were capable of being snared away, the others were thoroughly destroyed by the electro-cautery point. Some of the tumors had their attachment below the vocal cords, while others were attached within or above the glottis. The thyroid was carefully united by silver wires, directing every effort to have the parts in the most perfect position in relation to the vocal cords. The surface of the wound was then closed with the usual antiseptic precautions, and perfect union was obtained.

In this case I did not not use a preliminary or temporary tracheotomy, and depended upon the patient breathing through the larynx after the operation, from which I had no annoyance in the after-treatment. The larynx soon healed from the cauterization, and her voice and respiration were entirely restored.

CASE II.—Willie J., about 2 years of age, was presented with the following history: When three months old he accidentally swallowed some tincture of Camphor which seemed to have entered the larynx, causing laryngeal spasm attended by suffocation. Four months later he suffered from an attack of diphtheria and a year after an attack of lung fever. About that time the mother noticed that he was growing hoarse, with difficult respiration. These symptoms increased in intensity until he was brought to my clinic in July, 1893. When he was presented for examination the aphonia was complete. Respiration was almost impossible. Every effort of the respiratory muscles was brought into violent exercise to force the air past the obstruction of the larynx. The walls of the chest were almost collapsed at every respiratory effort.

Tracheotomy was immediately performed, with perfect relief of the respiration and re-establishment of the child's general health. After the recovery of the health of the child I made every effort to get a view of the larynx, both with and without chloroform, but without success. I was at a loss to know whether the stenosis was the result of laryngeal growths or plastic inflammation resulting from the inflammatory condition produced by the Camphor or diphtheria. The child continued in good health for two years, during which time he wore the tube.

I was finally able to make a successful examination of the larynx and discovered it to be filled entirely with papillomatous growths There could be absolutely no passage of air through the glottis.

I performed laryngo-fissure in a manner similar to the first case reported, except that there was already a tracheal opening. It was necessary to extend the thyroid opening into the tracheal wound,

owing to the small size of the neck. The growths were removed with the snare and electro-cautery point and the base of each tumor carefully cauterized. The thyroid was then carefully closed and the tracheal tube allowed to remain *in situ*.

After the thyroid wound was entirely healed the tracheal tube was removed and at the same time the large scar-tissue in the neck, caused by the long use of the tube, was dissected out and the tracheal wound closed by sutures.

The result was most gratifying, as the child is now in perfect health without the tracheal tube and has good use of the voice.

While laryngo-fissure is a formidable appearing operation to those not familiar with the manipulation of the larynx, under the guidance of laryngeal operators it is not an operation that could be considered especially dangerous either to life or the use of the larynx. It is indicated in all conditions of the larnyx which may not be successfully operated through the mouth. With the skilful use of the laryngeal forceps it is only in extreme cases that laryngo-fissure becomes indicated for foreign bodies or non-malignant growths. However, in small children it is sometimes impossible to successfully operate the larynx through the mouth. In other cases the situation of foreign bodies, or the large extent of new growth and the rapidity with which they recur during the time of operating, which in many cases must extend over considerable time, make this operation preferable to the oral method. During the early stage of malignant growth beginning within the larynx, especially if it happened on the vocal cords, the whole of the diseased mass may be removed by this method.

This was the operation over which the famous surgeons of Europe had their long disagreement in regard to the late Emperor of Germany. The German physicians wished to perform this operation for the removal of the vocal cord, while the English surgeon insisted on delay, with the result that has long since been known. I believe the German surgeons were justified in their attempt to remove the growth in this manner.

The technique of the operation is not materially different from that of tracheotomy, except the great care necessary for the proper opening of the cartilage. It is best that the hæmorrhage be carefully controlled after the cartilage is partially separated from without inward. The greatest difficulty, especially in children, is to properly locate the growths or conditions for which the operation has been performed. The larynx is very small in children and the

space for observation is necessarily limited, and to add to this difficulty the tissues become more or less covered with blood, which adds very much to the difficulty of keeping the parts well under control. By carefully retracting the tissues, however, and by the use of the head mirror, it is possible to properly manipulate the intra-laryngeal tissues. Much care should be used not to unduly injure the vocal cords, especially if the growth be attached to them.

It is necessary, however, to thoroughly destroy the base of tumors that may possibly remain, which may be best done, I am sure, with the electro-cautery point.

Care should be exercised that the arytenoid cartilages be not removed for one of the growths, an accident that might easily happen under the use of a poor light or by one not skilled in intra-laryngeal work. I think it is unnecessary, as a rule, to perform a preliminary tracheotomy. However, it is best in all cases to have the tracheotomy tube readily at hand, that it may be inserted in case of necessity. The operation should be performed with the body inclined in such a manner that the blood will flow into the mouth and not into the lungs.

DISCUSSION.

C. GURNEE FELLOWS, M.D., Chicago, Ill.: The doctor speaks of avoiding injury of the vocal cords in operation. A recent case has come to me where the vocal cord has reformed within a year and he has a good voice.

DR. DUNN: Of course in a cancer case we would probably remove the larynx. I have seen a case of complete removal of the larynx in which the person could talk very well after a false larynx had been inserted. Two membranous bands formed across the top of the tube which acted as vocal cords.

C. F. STIRLING, M.D., Detroit, Mich.: How would the varying tension be produced in that artificial larynx?

DR. DUNN: That was a question that Dr. Stoerk was not able to account for, the accurate manipulation of these bands. He had a remarkable degree of elevation and depression of the voice, but how he did it was a question.

DR. STIRLING: Don't they know yet?

DR. DUNN: No, he had been operated on for cancer some four or five years before.

Micro-Organisms a Frequent Cause of Conjunctivitis—Its Antiseptic Treatment, etc.

By E W. Beebe, M.D., Milwaukee, Wis.

Sternberg in his *Manual of Bacteriology* says that "The various forms of conjunctivitis have been ascribed to the specific action of bacteria," and in proof of the probable truthfulness of the assertion declares "that it is now generally admitted to be true as regards gonorrhœal ophthalmia, and the proof is satisfactory, that the gonococcus of Neisser is the cause of the intense local inflammation and purulent discharge."

To what extent non-specific catarrhal inflammations of mucous membranes are caused by the local action of micro-organisms has not been determined, but there are some reasons for believing that the bacillus described by Koch, and studied by Kartulis, is the cause of one form of Egyptian catarrhal conjunctivitis.

It is believed also that catarrhal inflammations are in some cases, at least, kept up by the presence of micro-organisms, which are always found in the discharges from inflamed mucous surfaces.

The non-infectious forms of conjunctivitis can scarcely be supposed to be due to the action of specific micro-organisms, but it is probable that an inflammation resulting from any cause, such as a chemical irritant, may be aggravated and become chronic as a result of the presence of various micro-organisms, and especially of the pyogenic micrococci.

This author further says that, "Whatever may be the final conclusion as to the rôle of the pus cocci, heretofore described in the ætiology of acute or chronic conjunctivitis, there can be no doubt of the power of the gonococcus to induce a virulent inflammation of the conjunctiva when introduced into healthy eyes."

The contagious properties of the discharges from acute cases of trachoma are undoubtedly due to the presence of pyogenic micro-organisms.

In twenty-six cases examined by Schongolowicz, they were found present in each, although they were not all of the same species, the staphylococcus albus and aureus being found most frequently to prevail.

The latter are probably the most common of all the pyogenic micro-organisms, and are found in phlyctenular conjunctivitis and inflammations of the lachrymal sac, as well as in various affections of the skin.

If the convictions of bacteriological investigators are true, and, as the author above mentioned declares, when speaking of gonorrhœal ophthalmia, "that the action of the pathogenetic micro-organisms seems to be limited to the tissues involved, and that there is no general systemic disturbance indicating the absorption of a toxic ptomaine," it is logical to suppose that local applications of such agents as are capable of destroying the micro-organisms without injury to the conjunctiva and adjacent structures, will be effectual in controlling the disease.

Experience leads us to believe that many such agents are curative for these conditions, at least to a certain extent, and it is now conceded that the local use of such remedies as Argentum nitricum, Sulphate of copper, Acetate of lead, etc., which were formerly considered so essential in the treatment of diseases of the eyelids, proved effectual largely by reason of their antiseptic qualities, the injurious effects from the strong solutions that sometimes followed their use having unjustly brought them into disrepute.

Weeks, in his experiments, found that the vitality of the staphylococcus aureus was destroyed by Argentum nitricum in 1 to 10 solutions in 4 seconds, in 1 to 50 solutions in 8 seconds, it being one of the most active germicides known, the ordinary Peroxide of hydrogen, when fresh, requiring 60 seconds to produce the same results; the latter, however, being free from irritation has the advantage of being used frequently where the Silver solutions would not be borne.

Thirty years ago eye-drops, to be thought effective, approached in strength, to some degree at least, the caustics from which they were made, the virtues of collyria being too often considered to be in ratio to the sufferings produced by them in the patient. Such ideas do not now prevail, as progress is as marked in this especial line as it is in that of other fields of medicine; only the milder astringents are now considered appropriate, and are used, we believe, with greater benefit to patients and more satisfaction to the prescriber.

The growing demand for less active collyria and the investigation of the bacterial origin of disease has led some of the profession to believe that better results than these afford can be obtained

by the local use of purely antiseptic remedies, there being no doubt that if micro-organisms are not of themselves capable of producing the entire number of conjunctival diseases, they are important factors in retarding the cure in a large majority.

With this thought uppermost, the writer began experimenting some time since with germicides having such qualities in a marked degree, without the irritating and injurious properties of the drugs before mentioned. Among those experimented with, the peroxide of hydrogen was selected as the one having more of the desirable qualities of an ideal collyria in conjunctival diseases than any other at hand. This, when freshly prepared, was of undoubted benefit in many cases, but the unstable qualities of the compound are not desirable, and the three per cent. solution of Pyrozone manufactured by McKesson and Robbins is now substituted for other preparations of Peroxide, and has been used with a degree of satisfaction not before obtained in the treatment of these cases.

Pyrozone has the advantage of being stable at all temperatures, and is of uniform strength in old or fresh solutions. It is readily diluted with water, and can be used in any desired strength to meet existing conditions.

The well-known property of Peroxide of hydrogen for, and destructive action on pus, commends itself to all, as it is not only harmless in the most aggravated cases of ophthalmia, but is of manifest benefit when purulent or muco-purulent discharges are present, whatever the condition. Ulcerations of the cornea are no barrier to its use; in fact, it is probably one of the best agents we possess in the treatment of aggravated cases of this kind, and for opacities of the cornea remaining, nothing in our armamentarium known to the writer is its equal.

One part of the three per cent. solution to ten of distilled water will be of sufficient strength in such cases, and can be used once or twice per day with a great deal of satisfaction. Its addition to solutions of atropia is of especial value, and is to be commended in the strength of one part to fifteen of the solution. In fact, whatever agent is used, a few drops of Pyrozone added to the solution will be of probable benefit from reasons apparent to all.

It should be kept in glass-stopper bottles, and should not be diluted with the ordinary rose-water of the shops, as a large portion of it is undoubtedly swarming with micro-organisms, which would render it unfit for use. Distilled water is preferable, and the strength of the solution prescribed should be in proportion to the severity of the disease.

In purulent or gonorrhœal ophthalmia and severe cases of trachoma the three per cent. solution, as prepared by the makers, has been used with good results, instillations of which may be made several time a day when the discharge is profuse. In phlyctenular conjunctivitis, keratitis, etc., solutions of one to eight or ten are more appropriate, but in mild cases of catarrhal conjunctivitis weaker solutions are preferable.

A favorite prescription of the writer in acute cases is to begin treatment with fomentations of Aconite tincture, ten drops to a pint of hot water, to be used for ten minutes, and repeated in three or four hours. After the acute symptoms have subsided a collyria of one to fifteen of Pyrozone, used two or three times a day, is sufficient to carry the case to a successful termination in a majority of cases, but occasionally the addition of three or five grains of Boric acid gives better results.

Landolt advised the use of Peroxide of hydrogen in purulent inflammations, but Noyes has doubts of its efficiency without the assistance of Argentum nitricum, although he concedes that it has the effect of abating the quantity of pus, yet he does not admit that it supersedes the use of the caustic.

In cases of gonorrhœal ophthalmia the writer does not feel justified in conducting them to a finish without the time-honored Nitrate of silver. I have, however, confined its use to the later stages of the disease, or after the acute symptoms have somewhat subsided, and then only in five-grain solutions, used twice in twenty-four hours.

In mild cases of ophthalmia neonatorum it is probable that the Pyrozone, persistently applied, will be sufficient without the Argentum solution, particularly so if Boric acid be used in its stead.

The writer has grave doubts regarding the successful local treatment of diseased conditions of mucous membranes in the cavities of the body by Pyrozone, but in diseases of the eye where the antiseptic compound is capable of being brought into contact with every portion of the lid diseased, I believe we may expect results that cannot otherwise be obtained.

It may be, and probably is, desirable in certain cases to use weak collyria of the stronger astringent remedies in conjunction with the Pyrozone, and when desirable results are not obtained with it alone they are to be commended.

Micro-organisms are probably present to a greater or less degree in the conjunctivæ of all normal eyes, but only under certain diseased conditions of the body do they become numerous and cause

local inflammations; therefore, appropriate Homœopathic remedies should be given for these systemic conditions in all cases, the totality of the symptoms being the indications therefor.

Discussion.

R. S. Copeland, M.D., Ann Arbor, Mich.: I want to second the endorsement that Dr. Beebe has given to Peroxide of hydrogen in the conditions named. I felt for a time when Peroxide began to be used that it would be of use in gonorrhœal ophthalmia, but I was a little afraid; but for five years I have pinned my faith to Peroxide of hydrogen in gonorrhœal ophthalmia, and for five years haven't used Silver nitrate in the least of these cases; and also for ulceration of the cornea my local remedy invariably has been Peroxide of hydrogen. In gonorrhœal ophthalmia I have used, after an injection of Cocaine, Peroxide in intervals of fifteen to twenty minutes. I believe that the use of that remedy is much better and followed by better and much more satisfactory results than the use of Silver nitrate.

C. J. Swan, M.D., Chicago, Ill.: The essayist spoke of the use of Peroxide in the treatment of trachomatous cases. I should think it would be of use in gonorrhœal conditions. In trachoma the micro-organisms are not on the mucous membranes, but in the submucous tissue. It seems to me that a mild antiseptic of that kind would be without effect in chronic trachoma. In trachoma where we have the fish-spawn variety of granules I have used Prince's forceps with a good deal of satisfaction to squeeze out these granules, and I then apply a solution of 1–100 Sublimate, followed by iced compresses to prevent too great reaction.

I should like to ask the doctor if he has ever used the Peroxide in severe cases of trachoma.

Chairman: This subject has interested me particularly in the last year or two, because I have gone through one or two epidemics of purulent ophthalmia occurring among children born in the hospital. A year ago I stated that a new case had been reported to me by my assistant after I got to Newport. I have the great pleasure now of saying that there have been no cases since last summer, although the maternity department has gone on full blast.

With reference to local applications, I must pin my faith to the Peroxide of hydrogen as a cleanser and a discoverer of pus at least. Whether or not it has the full destructive action that is accorded to it I am not yet prepared to say. I cannot yet quite give up my Nitrate of silver in these cases. I use Hydrogen dioxide, and have my nurse use it to discover the presence of pus, which is often not discoverable by simple inspection. Little bits of pus that the nurse sometimes fails to get out will secrete themselves. I have never used Pyrozone. It has simply been because I have been satisfied with

the other preparation. This remedy will immediately discover the presence of pus left behind by previous washings with the weak solution of Bichloride of mercury by the nurse.

I must endorse the use of the Nitrate of silver in attenuation internally in conjunction with the local treatment, and particularly in conjunction with cleanliness. Pulsatilla sometimes, when Nitrate of silver seems to stop acting, will start it going again.

H. D. SCHENCK, M.D., Brooklyn, N. Y.: I have used Pyrozone in preference to other preparations of Peroxide of hydrogen for two or three years. It seems less irritating than many of the others, while acting as effectively on pus as any of them. Like Nitrate of silver and other caustics used about the eye and ear, the strength of the Pyrozone used must be carefully adjusted to the case, each requiring a special study to find the most effective strength. Pyrozone must not be continued in any particular case too long, else it will do harm and prevent a speedy recovery.

E. W. BEEBE, M.D., Milwaukee, Wis.: Whether micro-organisms are present or not, Pyrozone will do no harm, and possibly may do a great deal of good, and I am sure if the success of other physicians corresponds with mine they will be very glad to make use of it.

In regard to its use in trachoma, its characteristic action, when used in such cases, is proof that the micro-organisms are not all beneath the surface, and frequent repetitions of its use will be likely to effect good results.

Papillomata of the Larynx.

By John B. Garrison, M.D., New York, N. Y.

In writing of this most common form of benign tumor of the larynx, it shall not be my purpose to enter into text-book detail, which, although interesting, would needlessly encroach upon time and space, and can be easily referred to by the reader at any time.

I wish to call attention to a mode of treatment that may be valuable in some cases at least. The removal of papillomata by the ordinary method of cutting-forceps is usually followed by good results; but there are many cases where the tumors lie flat upon a broad base, and it is more or less difficult to remove them by that means, and it is in these cases that the mode of treatment I shall mention will be practical.

Many ætiological factors have been given by different authors as bearing upon the production of this disease, but the exact cause still seems unknown. All the cases I have examined have exhibited a similarity in one point, namely, more or less anæmia of the tissues surrounding the tumor.

It seems to me that an interference with nutrition or, perhaps, more properly, with nutrition on one hand and absorption on the other, is the chief cause in their production.

The following single case was treated with the especial idea of correcting the condition of anæmia, and to stimulate the parts to a more healthy action.

Case.—Mr. O.; æt. 47; slight of build and nervous temperament; called upon me in 1895 for examination and treatment. He had become aphonic, except upon great effort, gradually; becoming first affected about two months previously.

Examination revealed an anæmic larynx, with a grayish tumor about the size of a small pea upon the anterior upper surface of the left vocal cord. Its base was broad.

Having lately seen the successful effect of galvanism of the larynx in other conditions, it occurred to me to test its value in this case. The treatment was as follows: A flat electrode, attached to the positive pole, was placed at the nape of the neck, being first well moistened, and a small nerve electrode of Erb, well secured in

an interrupting handle, was covered with a layer of moist absorbent cotton, for use as a negative pole. The negative pole was then pressed behind the articulation of the inferior cornua of the thyroid cartilage with the cricoid, at which point the inferior laryngeal nerve is reached, and the rheostat moved to cause a current of from ten to fifteen ma. to pass, or enough at least to cause good, strong contractions of the laryngeal muscles, and the interrupter pressed for an instant; repeat this at intervals of ten or twenty seconds probably ten times at the first séance. The following day the treatment was again given, adding one or two contractions.

This was kept up for several weeks; every day only for the first week, then every alternate day, then twice a week, until, at the end of about three months, the patient presented a larynx normal in color, and only a decided thickening where the tumor had been, and a voice which, though still husky, was able to do fairly well for the purpose of conversation.

At this point the patient declared he could not be constant in attendance at my office, and I have never seen or heard from him since. The unsatisfactory ending of the treatment makes it impossible for me to know how near a perfect cure could have been effected by the electricity, but it is but fair to suppose that, if continued, it might have been attended by a perfect cure, inasmuch as it not only stopped the growth but caused it to nearly disappear.

It will serve as a suggestion, at all events, and may be used by some of us later on with satisfaction.

The Spectacle Frame.

By David A. Strickler, M.D., Denver, Col.

In recent years medical literature has been filled with articles on errors of refraction and heterophoria, dealing with almost every phase of asthenopia in its different forms, with its consequences, treatment, etc.

In all this literature I do not recall a single article on the proper fitting of the spectacle frame. This seems strange when we consider that, no matter how carefully the oculist may do his work, the optician can frequently render it of little or no effect. In a nervous patient an ill-fitting bridge or temple may counteract all the good to be had from a well-fitted cylinder.

I recall the case of a young lady teacher who came one hundred and seventy miles to have me examine her eyes for asthenopic headaches. After a careful examination under Atropine, and while writing a prescription for .25 D cy., she said, "Doctor, I had glasses given me by Doctor ——, but they never did me any good." She had them with her, and upon examination I found them identically what I intended giving her. I so told her and asked her to put them on.

I found the bridge illy-fitted, gave her a note to the optician stating the changes wished. She remained in the city for three days longer, wearing them with perfect satisfaction, went home and at the end of thirty days reported that she wore the glasses with perfect comfort and entire relief of all her symptoms. It cost this lady in the neighborhood of fifty ($50) dollars in money and about ten days' loss of time to learn that an illy-fitted bridge may counterbalance good work done by the oculist. The oculist should have seen that his prescription was properly filled in all respects.

Cases of this kind come to us frequently, and it has been my experience many, many times, that glasses as they come from the optician—I mean when the patient has gone to the optician with the prescription—will not answer the purposes for which they were intended. It, therefore, becomes advisable that the oculist personally inspects every pair of spectacles and eye-glasses that are worn

on his prescription. To do this intelligently implies a knowledge of where a lens should be placed to get the proper effect, and how to place and hold it there with the greatest comfort to the patient.

This knowledge is gained by most of us from experience and observation. Little has been written on it or taught to the profession.

To briefly call your attention to some of the points in properly fitting the frames, including the set of the lens, is the object of this paper.

Briefly stated, the several parts of a pair of spectacles are (1) the rims, in which the glasses are mounted, (2) the bridge or nose-piece, by which the rims are connected and supported on the nose, and (3) the temples or side pieces.

The rims may be dispensed with as in the "frameless" or "skeleton-framed" spectacle, when small holes are drilled in the lenses near their edges for the accommodation of screws which fasten the bridge and temples in place.

The size of the rims and the length of the bridge should conform to the inter-pupillary distance and the width of the temples, so that the line of vision shall be through the centre of the lens, and the temples shall lie against, but not press too tightly, the sides of the head. In persons of wide face the rims should be larger than those with narrow face. Any disproportion between the inter-pupillary distance and the width of the face should be met by lengthening or shortening the nose-piece. The bridge should fit the nose, and partially encircle it. Noses differ so widely in form and size that no one type of bridges is suitable to all cases, though the saddle bridge, introduced by Dr. Charles H. Thomas, of Philadelphia, meets the requirements in almost all cases. Other forms of bridge are the "K," formed of wires in the shape of the letter k, the "X" bridge, in the shape of the letter x, and the old-fashioned "curl" bridge. The "K" and "X" bridges are allowable in some cases, but as they are usually made of thin wire they are apt to cut the nose and irritate the wearer. The "X" bridge allows the glasses to teeter or see-saw across the nose with the motions of the head and should not be worn with cylinders. The "curl" bridge may be used when the bridge of the nose is prominent, and in presbyopes when the wearer likes to slide them down the nose either to increase the strength of the lens or to look over them. A perfect bridge should present a rather broad surface for contact with the nose and should be accurately adjusted so that the pressure is

evenly divided. I notice a tendency on the part of some opticians to turn the upper edge too close to the nose so that it cuts the skin. Another tendency is to get the bases too close together, so that too much pressure on the sides results. Either of these defects gives rise to a great deal of discomfort, and may counteract all the good the lenses might otherwise do. I have found it necessary, in some cases, to have gold bridges put into steel frames before comfort could be had. This is probably due to the fact that gold is more easily moulded to the shape of the nose, and does not rust.

A cork-lined saddle bridge will sometimes give comfort when nothing else will. If it be necessary to remove all pressure from the bridge of the nose and bring it to the sides, it can be best done by soldering a pair of guards, such as are used in eye-glasses, to the spectacle bridge.

The point I would emphasize at this time is, be sure that your patient has a comfortable bridge before you dismiss him from your care.

The side pieces, or temples, should be slightly bowed to conform to the shape of the head, and should be of sufficient length to reach behind the ears.

The best form where the glass is worn constantly is the hooked or riding temples, as with these the whole frame can be much lighter and is held in place more firmly. Great care should be exercised in seeing that the curve fits comfortably back of the ear, and that the side piece is steadied by lying against the temple, but without exerting pressure sufficient to give discomfort. The eye glass, or more properly the *pince nez*, is held in place entirely by a spring which pinches the nose. They are suitable for spheres, and may be used with weak cylinders when the nose is formed so that they can be held firmly at the proper place and with comfort to the patient. By reason of the fact that they are joined by a spring instead of a rigid bridge they allow a displacement of the axis of a cylinder, or the base of a prismatic lens, and should be allowed with cylinders or prisms only to patients who are fitted by nature and habit to keep them where they belong. Many more or less ingenious frames in which the glasses are joined rigidly and the spring placed in some other position, have been invented, but none of them have become popular. With the "offset" guard the lens can, in the majority of cases, be held at the proper distance from the eye. When made frameless it is the most handsome mounting on the market.

In adjusting them the nose-pieces should conform to the bones of the nose by which they are supported. If too much pressure is exerted at the lower end they tend to fall forward; if too much pressure is exerted at any one point discomfort results, which must be carefully guarded against in all cases. If properly fitted, the pressure evenly distributed over the surface of the nose, the necessary amount of pressure is not great.

When there is no muscular insufficiency (orthophoria), the lenses should be so placed that the visual axis is through the optical centre of the lens. As the visual axis differs in distant and near vision, the lens must be placed to correspond to its intended use. When the lens is to be used for distance only, the distance between the optical centres of the lenses should be the same as the inter-pupillary when the eyes are directed to distant objects and the lens should be in the vertical plane, *i.e.*, the glass facing directly forward. For reading or near use, their centres should be brought about 4 mm. nearer and the lenses should face slightly downward and inward to correspond with the line of vision. When "constant" glasses are prescribed the lenses should face between that of the distant and the near glass and the centres should be a compromise between the two. So also in the bifocals the distance between the centres and the facing of the lenses should be a compromise between the distant and the near glasses.

As a rule, glasses should be placed just far enough from the eyes to escape the lashes. Myopes sometimes prefer them nearer and presbyopes further.

In heterophoria, when a prismatic effect is indicated, something may be accomplished by decentering the lenses. Decentering may be accomplished by either of two methods, or by the two combined. First, by decentering the lenses in their frame; second, by displacing them, together with their frame, from what has been given as the position in orthophoria. By the first the weight of the glass is increased; by the second, the field of vision is limited. In practice, the second method should be used to the extent of its practical results, and if more is wished combine with it the first.

The prismatic effect of decentering is given in almost all of the works on the eye, and, therefore, I will not consider it, the method of decentering alone belongs to this paper.

In conclusion, I would emphasize the fact that to get the greatest benefit from lenses the frames must be comfortable. This implies a careful adjustment of the nose-piece and the side bars or temples.

That the lenses must be so that the visual axes pass through the optical centres of the glasses, or as nearly so as is practical in any given case, and that when the lens is decentered it shall be done with care and precision. Lastly, that every pair of spectacles or eye-glasses should be carefully inspected by the oculist before they are worn on his prescription.

A Case of Ligation of Post-Auricular Vessels for the Relief of Tinnitus Aurium.

By Howard P. Bellows, M.D., Boston, Mass.

January 31, 1894.—Mrs. ——; age 48; apparently in excellent general health; complains of an annoying tinnitus, of about three months' duration, which is limited to the left ear, but shows a tendency to increase, which occasions considerable apprehension and alarm. The character of the noise when first noticed was that of trains moving in the distance and the puffing of locomotives. It was some time before it was discovered that these sounds were not real, as trains pass within hearing distance of her home. For two months past an undefined feeling of distress or uneasiness has been felt in the region back of the left ear. One month ago, on the second day of a severe cold, accompanied by determination of blood to the head and severe paroxysms of coughing, choking and sneezing, noticed an increase in the tinnitus, which came, in the course of a few hours, to assume a beating and "breathing" character, which has continued ever since. There was no vertigo either at the time of this development or since. At first this sound was modified, or even stopped momentarily, by movements of the head, but latterly there is but one mode of relief, and that is obtained by pressure upon a spot which lies on a level with the floor of the external meatus and one inch posterior to the attachment of the auricle. Light pressure at this point transforms the "breathing" sound into a pounding noise, but strong and steady pressure causes a total cessation of all sounds as long as the pressure is maintained. There is no tenderness, swelling, redness nor any other objective signs at the spot indicated. She has never been subject to headaches and has had no severe sickness for many years save an attack of peritonitis two years ago, followed by nervous prostration. At that time an over-sensitiveness of hearing developed, in both ears alike, which has continued ever since. It was also noticed that during two pregnancies the hearing became abnormally acute. For two years past there has also been frequent epistaxis from the left nostril, recurring sometimes two or three times a day. The ear has throughout been entirely free from pain, and there has never been autophony. Ex-

amination shows tympanic membrane and external canal perfectly normal: throat and nose very slightly catarrhal; fork from vertex heard alike on both sides, and air conduction best on both sides; hearing distance, for a forty-inch watch, on the right side six feet and on the left seven feet.

February 22d.—Tinnitus rather upon the increase. Pressure upon the spot previously described still causes entire cessation of all sound. At this spot pulsation can now be distinctly felt by the finger. Ordinary modes of treatment have failed to produce any effect upon the condition, likewise treatments by electricity and the exhibition of Gelsemium and Belladonna. Hearing distance, for forty-inch watch, fourteen feet both right and left.

February 27th.—The beating increases, pressure has less effect, and the spot where it is applied is becoming painfully tender. The patient is growing nervous and is rarely free from consciousness of discomfort. This morning the tinnitus is distinctly objective and the beating can be heard without difficulty through the otoscopic tube, both when inserted within the auditory canal and when held in contact with the pulsating area. Advised ligation of the pulsating vessel at once.

March 3d.—The operation proposed was performed this morning by Dr. Horace Packard. The exact point at which the pulsation was felt was marked with Nitrate of silver upon the skin previous to etherization, and the parts were well shaven and rendered aseptic by the usual methods. An external incision two inches in length was made, beginning at a point on a level with the superior wall of the external meatus and about one-half inch posterior to the attachment of the auricle, and running obliquely downwards and backwards. A large vein, apparently, was divided high up in the incision and secured by forceps. Deeper dissection disclosed no artery, but pulsation was plainly felt beneath the finger. The fascia of the sterno-cleido-mastoid muscle was reached, and the pulsation was felt still deeper. Beneath the fascia, by continued careful dissection, a number of enlarged veins, apparently, were encountered crossing each other in such manner that it was found necessary to successively ligate and divide three of them in order to proceed deeper. Upon the ligation of the last of these vessels, and after the exploration had extended a full half-inch within the muscular tissue, no further pulsation was evident either at the bottom or around the sides of the incision. Upon closing the wound there was quite profuse venous hæmorrhage again upon the removal of the forceps at

the upper end of the incision. This was controlled by a deep stitch. The ligatures being catgut, the entire wound was sewed up and sealed. The operation took about one hour, and was performed by Dr. Packard with the utmost patience, care and skill throughout. The failure to find an artery, and the entire cessation of pulsation upon the ligation of the cluster of enlarged venous vessels, was naturally a source of no little surprise in this case, and the result of the operation was awaited with still greater interest in consequence of this unforeseen peculiarity.

March 16th.—The wound was healed by first intention. For eight days following the operation there was a total cessation of all tinnitus. Within the last four or five days there has been heard, a few times, a momentary sound resembling the former noise, but not in the old locality. It seemed to be directly above the auricle, and was quickly stopped by a turning of the head or pressure of the hand.

March 19th.—The slight tinnitus above the ear has not returned again, and there is perfect quiet back of the ear. Two days ago, however, upon over-exerting herself in climbing two particularly hard flights of stairs, became conscious of a beating tinnitus deep within the ear, upon the left side alone, and at the same time a slight coldness which has existed around the ear since the operation gave place, under the stress upon the circulation, to a heated feeling, which still continues.

March 27th.—Reports by mail "I hear a slight noise in the afternoon and evening, or after I have retired for the night. This noise is not continuous, and I think not any worse than a week ago."

May 2d.—Patient called. Has entered the climacteric period (at 48 years of age), and for last three weeks has had increased pulsating about the left ear. Throbbing can be felt and heard at various points, and pressure upon these changes the tinnitus in a very marked degree. Hearing right and left still fourteen feet for a watch which had normally heard at forty inches.

December 8, 1895.—Patient called. General health excellent, but tinnitus worse; vessels pulsating all about the region back of the ear on the left side, but not at all upon the right. Has taken Erigeron, Cimicifuga, Macrotin and Glonoin without avail.

April 5, 1896.—In reply to a letter of inquiry from me the patient writes: "My head has been much worse some of the time since I saw you last, but rather suddenly, about the 1st of January, it began to improve, and now no noise can be heard by listening back of the ear,

and during the day, while moving about, I hear no noise myself. At night, when lying down, I feel, rather than hear, a deep beating, in time with the pulsating of my heart. My hearing has never been affected by the noise. I think it is just as acute as when you last tested it. I am encouraged to feel that in time what little trouble I now have will wholly disappear."

It is needless for me to add that should this most desirable state be reached the result can in no way be attributed to the operation which was performed, the effect of which was a temporary benefit only, the tinnitus returning in other localities, and in even more distressing degree, as soon as the establishment of collateral circulation threw the stress upon other vessels.

As far as I have been able to ascertain there are but two cases upon record in which ligation has been resorted to as a means of relief from tinnitus aurium, and both of these have come to my knowledge since the operation above detailed. The first of these was operated upon at the ear clinic of Prof. Schwartze, in Halle, and is reported by Dr. Carl Grunert in the *Archiv. für Ohrenheilkunde*, vol. 35, pp. 226 and 227. The operation was performed in the winter of 1892, and consisted in the ligation of the left common carotid artery in a young man of 21 for the relief of a violent beating tinnitus, synchronous with the pulse, the indication for operation being the complete cessation of the tinnitus upon digital compression of the artery. The operation afforded such relief that for a time the beating became almost inaudible. The benefit was not permanent, however, and in about four months the tinnitus had returned in nearly its former intensity. I met and questioned this patient last October at the clinic in Halle, nearly three years having then elapsed since the operation, and he assured me that the tinnitus was then, and had long been, as bad as before the operation was performed. The second recorded case is referred to in the *Archives of Otology* for January, 1896, in the synopsis of a paper by Drs. Goldflam and Meyersohn in the *Wien. med. Presse*, Nos. 17, 18, 1895. It was a case of objective tinnitus, the sounds synchronous with the pulse and stopped by compression of the left common carotid. The artery was ligated, but in four hours the sounds returned.

In conclusion it must be stated, therefore, that in the very limited experience thus far obtained from the use of the ligature for the relief of tinnitus aurium the results have not been permanent, the tinnitus recurring as soon as collateral circulation is fairly established.

A Case of Complete Loss of the Epithelial Layer of the Cornea from Traumatism, with Perfect Recovery of Vision and Remarks on the Diagnostic Value of Fluorescin in Corneal Troubles.

By Sayer Hasbrouck, M.D., Providence, R. I.

Mr. B., aged 54, the evening of January 1st, while passing through the cellar, found himself in the dark, his lamp having blown out, and, turning suddenly to retrace his steps, came forcibly in contact with an oleander bush which was being stored there for the winter. Sudden pain in the eye told him that he had evidently got something in it, as he expressed it. On his return upstairs various members of the family in turn tried to find the supposed foreign body, but without success. Having a bottle of Cocaine drops in the house that had been used at a former attack of sore eyes, he had that repeatedly dropped in the eye, and hot cloths were applied during the night. Notwithstanding this, the pain was such that neither the patient nor the family were able to sleep. Early in the morning the family physician was called in, and he, like the rest, failed to find anything, and the case was referred to me. On examination of the eye, about fourteen hours after the accident, I found a slight injection of the conjunctiva, and noticed, by oblique illumination, a slight scratch on the upper and inner surface of the cornea about one-quarter of an inch long. This seemed but a slight injury, still, before making any prognosis, I carried out the usual details of such an examination with me by dropping a solution of Fluorescin into the eye. This immediately stained the cut, and, as I watched it, I saw the Fluorescin suffuse itself between the layers of the cornea, as the smooth epithelial surface was plainly seen anterior to the staining. This showed that nearly the whole epithelial layer was separated from the rest of the cornea. The case then assumed a more serious aspect, and I gave a very doubtful prognosis. I ordered ice-cold compresses, yellow Pyoktannin every hour, Atropine, grs. iv ad ℥j, three times a day, and Cocaine, grs. viij ad ℥j, to be used in case of pain. This was to be kept up constantly night and day. The next day, January 3d, the centre

of the cornea looked very clear, but at the location of the cut it looked as though it was ulcerating. There was an abundance of muco-purulent discharge, and the conjunctiva was freely injected. The pupil, which dilated slowly and but partially the day before, was now widely dilated, and the patient did not complain of any pain or discomfort. Continued treatment.

January 4th.—Centre of cornea has a striated haze, but otherwise the symptoms are about the same. This evening the epithelial layer of the cornea has a corrugated appearance.

January 5th.—The epithelial layer was hanging from a small attachment below, and was easily wiped off with a piece of cotton, leaving the cornea very hazy. No pain. Discontinued the cold compresses.

Heavy line above and to the inner side of cornea shows location of injury; the stippled appearance of cornea shows the appearance of cornea after the application of Fluorescin.

January 6th.—Muco-purulent discharge less, but general appearance of eye the same.

January 7th.—It looks as if the epithelial layer of cornea was commencing to reform. Very little mucous discharge.

January 8th.—I am very sure we have a good deal of new tissue. The hazy part of the cornea looks like the ace of clubs.

January 10th.—The centre of cornea is now clear. There is still a small spot of ulceration at the location of the cut.

January 14th.—Eye seems all right, except a slight haze over cut.

January 20th.—Eyes feel weak, but patient is using them some.

February 4th.—Says his glasses do not work well. Is using, for near vision: R., + 1.50 D sp. + 0.25 D cy. axis 90°; L., + 1.50 D sp. + 0.25 D cy. axis 90°. I made an examination of the eyes and found vision, without glasses: R., 0.8???; L., 1.0. Under Homa-

tropine (Wyeth's ophthalmic discs) vision was: R., 0.4; L., 1.0. With — 0.25 D sp. — 0.625 D cy. axis 10°. R. = 0.9 +; with — 0.25 D cy. axis 180°; L. = 1.0. These were ordered for distant vision, and for near vision I ordered: R., + 1.75 D sp. — 0.625 D cy. axis 10°; L., + 2.0 D sp. — 0.25 D cy. axis 180°. These were used as bifocal glasses, and about May 1st, four months after the accident, he met me in a car and said: "Doctor, I believe the right eye is the better of the two." But I confess that I had not the courage to advise him to run into an oleander bush with the left eye to see whether it would not improve it

As to the treatment of the case, I wish to speak a good word for Pyoktannin, as I believe since I have made a routine practice of using it in all cases of traumatism to the eyes that my results have been better. Of the diagnostic value of Fluorescin I cannot speak too highly. It at once shows us the location and extent of the corneal wound, and often locates for us an offending foreign body that other means and other men have failed to find. It is, to my mind, one of the essentials that should be found in every oculist's outfit.

Is the Medical Profession Responsible for the Vast Number of the Incurable Deaf, and What Shall We Do for These Cases?

By A. B. Norton, M.D., New York, N. Y.

At the special request of the Chairman of this bureau for an ear article, I selected the above topic, even though in making an affirmative answer to the first section of the title I should not receive the endorsement of some of my hearers. If, however, I succeed in awakening greater interest in the subject on the part of the general practitioner, my aim will have been reached, and this paper not written in vain. The customary language of writers upon medical subjects is one of fulsome praise and flattery to both themselves and their associates in the medical profession, and if I depart from the prevalent style I beg to assure my hearers that it is with malice toward none and charity for all.

I realize as well as any one that it is impossible, in the light of present-day advancements, for any one man to become a specialist in all the departments of medicine, and that the general practitioner cannot be expected to recognize every special case that falls into his hands, or to be posted on the latest and most approved treatment of the same. At the same time I do believe it to be the duty of the physician in general practice to know the generally-accepted treatment for the every-day diseases which they are treating, even though it be of some special organ. My experience may have been somewhat unusual, though I doubt it, and believe that every specialist has had many cases that have become incurable from neglect of the correct treatment at the proper time.

The cause of this condition I believe primarily rests upon insufficient and improper teaching; I mean that the college curriculum is too frequently so arranged that the special branches are not given sufficient importance. In some of the colleges the special departments are not made compulsory, and the student who is simply seeking a license to practice devotes his time to the branches that count, to the exclusion of the subjects upon which the professor may not be an interesting or instructive teacher, or examinations

are not absolutely essential to the securing of the diploma. Again, by improper teaching I refer to the fact that some teachers devote more time to the exploiting of their skill as an operator, or to the more intricate and more special diseases, than to the little, common, every-day diseases.

These points could be covered by requiring some positive, even though low, rating in all the special chairs, and by our teachers emphasizing and drilling the student over and over again in the diagnosis and best treatment in the common ailments. Our teachers must remember that they are not making specialists but general practitioners. What the student most needs is how to best treat the diseases he meets every day, and when he gets the difficult cases he will seek the aid of a specialist or study up the case in hand.

But to return more directly to our subject, let us first see what are the causes of incurable deafness. The large majority of cases are those classed as catarrhal.

The approach of catarrhal deafness is always insidious, and the patient is frequently little aware that he has any trouble until the condition has become deeply seated; he then consults his family physician, who selects and administers a remedy from the one hundred and nine different drugs for impaired hearing, or perchance, what is worse yet, orders the instillation of Mullein oil.

One of the frequent causes of the so-called catarrhal deafness is the adenoid growths, or enlarged Luschka's tonsils, so often present in children, who are easily recognized and known as mouth breathers. This condition, which is so often neglected, should be early attended to and relieved either by remedies or operative measures. But through neglect these cases drag along for months, or perchance years, steadily and gradually growing worse, until the case has passed the time when it could be benefited by treatment, and perhaps even too late to be arrested. On the contrary, if the best treatment had been undertaken at once and *thoroughly* followed out, the progress of the disease could in the majority of cases have been checked, and in many instances the condition could have been improved.

This history of neglect at the commencement of the trouble can be elicited from nearly every one of these cases, and in ninety-nine cases out of every hundred the course of the disease and its almost certain termination, if prolonged and faithful treatment is not undertaken, has never been pointed out to these patients. It is the duty of every physician who is daily meeting and treating these cases to emphasize them so strongly that each patient will follow

out the treatment instead of neglecting it and floating around from one doctor to another in search of the promised cure.

Another cause of deafness is chronic suppuration of the middle ear, which, commencing as a gathering or abscess, through neglect runs into a chronic suppurating ear. This condition results from a simple gathering, which the patient and family, together with the family physician, too often neglect at the time when it could be readily and promptly cured. This sad neglect is perhaps attributable to two reasons—first, the old popular idea that a discharge from the ear should not be checked, and, secondly, carelessness owing to the cessation of pain with the onset of the discharge. Both of these reasons are probably due principally to the medical profession, for the belief that the stoppage of a discharge endangered other structures must certainly have originated with physicians, while we all know that too frequently the busy superficial practitioner will neglect and become careless of details as soon as the alarming or severe symptoms of the patient are controlled. There is probably no question but that almost every case of acute suppuration of the middle ear can be quickly cured by proper treatment if undertaken at the onset of the disease, and therefore these cases of chronic suppuration, lasting for years, and finally resulting in such extensive destruction of the sound-conducting apparatus that irreparable deafness is the ultimate outcome, are directly attributable to the family physician.

It is the duty of every physician to educate the laity to the dangers resulting from neglect of both catarrhal and suppurative conditions of the ear. The possibilities of complete and permanent deafness cannot be overlooked, and in suppuration life itself often pays the penalty of neglecting a discharge from the ear.

The course of these diseases is always very gradual and insidious, and for that reason the more dangerous, and the greater is the liability of the patients' neglect of themselves, unless the course and probable results are strongly pictured to them.

I believe that what I have already said justifies an affirmative answer to the first proposition in my title, and that the medical profession as such is to a greater or less extent responsible for the numbers of incurable deaf.

The last section of my title has already been answered by an article in the *Homœopathic Eye, Ear and Throat Journal* for June, by Mrs. C. D. Gorton, an instructor of speech-reading, entitled "What May be Done for the Incurable Deaf."

As this article may not have been seen by all of my hearers, I shall refer briefly to her work as exemplified by cases in my own practice. Speech-reading, or as more properly known, lip-reading, is by far the best and practically the only thing of value to our incurable deaf. I quote from the article referred to above:

"Many people imagine speech-reading to be useful simply to deaf mutes. This is a very common as well as an erroneous impression. People with acquired deafness take it up quite as readily and become equally proficient with those who have inherited their deafness. Although the organs of speech are mostly hidden, yet their muscular activity produces efforts which we may term facial pictures, known to the student of visible speech as words, sentences, language. Careful and systematic sight-training is essential, for one must learn to distinguish with but little conscious effort, between the many perplexing similarities of position that our language presents—there being a vast number of words which appear alike to the eye. We have so commonly regarded the sense of hearing as the only medium through which spoken language is understood, that for some to realize the possibility of reaching the same result by other means, may appear difficult. It is readily accomplished, however, through educating the eye; the sense of sight becoming unusually acute and taking the place of the sense of hearing."

Mrs. Gorton, who has made many improvements in the methods of instruction, states that, in her experience, the more deaf the student is, the more quickly and thoroughly he masters the art, because he is more dependent upon it. The system is acquired in about fifteen lessons, though to become most proficient, one should practice for a very much longer time.

It is applicable as well to the partially deaf as to those who do not hear at all, and is also of value to those who have acquired deafness even late in life. Thus we see the range of this work is wide and adapted to all cases of deafness. The results of the cases that have come under my observation have been most gratifying to the patient and friends and lead me to speak very highly of this lady's work.

Infectious Corneal Ulcers.

By Jas. A. Campbell, M.D., St. Louis, Mo.

An infectious ulcer of the cornea, from its proneness to result in rapid destruction, is always a condition of danger to the patient and full of anxiety to the attending physician.

As it may usually be traced to some corneal wound or abrasion, and as the great majority of such wounds or injuries are not followed by infectious ulcer, it may be accepted that the infectious nature is a secondary or accidental circumstance and is of purely local origin. This septic contagium may originate from any of the ordinary sources of the same. It has been stated that in from 20 to 32 per cent. of cases dacryo-cystitis has been present, and this is, therefore, regarded as a frequent cause. But this would leave a large percentage of cases to be otherwise explained, which in many instances may be easily done.

Hypopyon, which according to Noyes is present in 80 per cent. of cases, is always a grave complication, for vision is rarely perfectly restored when it is present. Hypopyon may result from infiltration of pus through the posterior corneal layer by extension inward of the ulcerative process; but according to Uthof, supported by Verdese and Fuchs, in most cases it is probable that the hypopyon pus comes from the infected iris and not from the cornea, for experiment has demonstrated that this pus is devoid of all power of infection as long as the cornea is not perforated.

The older methods of treatment met with but little success. The first great advance was the employment of Saemisch's method, which is making an incision through the ulcer into the anterior chamber, making the point of incision and exit of the knife just beyond the edges of the ulcer. Theoretically, this allows the gush of aqueous fluid to wash out the hypopyon, and likewise the pus in the ulcer. This is frequently beneficial, but in many cases the hypopyon is of a plastic and fibrinous nature, and cannot be thus evacuated or withdrawn. Again, extensive incision of the diseased and softened corneal tissue does not always add to the certainties of repair.

The second method to be extensively adopted was the actual cautery —Martinache, 1873. Very brilliant successes have followed this treatment, but the too frequent tendency to overdo, and the danger of an occasional prolapse of the iris from perforation, together with the frequency of resulting obstructing corneal opacities, prevented many from employing this method.

The third, and probably the most popular treatment at the present time, is the subconjunctival injection of the Bichloride of Mercury in strength from 1–500 to 1–2000. This was introduced by Reymond in 1892, and popularized by Darier and Abadie. It has been very generally tried and written upon everywhere. In many instances remarkable results have followed, and certain authors are enthusiastic in its praise. It is especially popular in France. There is some difference of opinion, however, in reference to its use. For instance, Zimmerman (Jena) prefers Saemisch's method, curetting or cauterization, and says he has had no success with the sublimate injection. Nieden (Bochum), with a list of 2000 cases, prefers actual cautery to all other methods. Kalt (Paris) has obtained good effects with it, but says its success is not always constant; while Bach declares that he never has had favorable results from subconjunctival injections. On the other hand, Abadie is so impressed with its virtues that he proclaims that we are now masters of the situation by its use.

The quantity of the sublimate injection, as well as the frequency, seems to be as yet not at all uniform. While one writer uses but a few drops, another recommends one-half to three-fourths of a syringeful distributed in two or three directions.

The three methods of treatment, Saemisch's, actual cautery and the subconjunctival injections, are the treatments most prevailing. In addition may be mentioned Dr. E. William's recommendation of the local use of pure Carbolic acid, and also the "surest and simplest" tincture of Iodine method of Dr. Van Denberg.

There is no question but that each of these methods has been used with success in many cases, but being purely local in their use the inference is that the disease is entirely local; in fact, Abadie takes the position that "the condition has nothing to do with the constitution of the patient, and, therefore, the treatment should be local rather than general. . . . ." While it is quite true that the original point of infection is local, it is certainly not true that internal remedies are of no value. My personal experience extends over a goodly number of cases, variously treated, as the years have gone

by. I have used Saemisch's incision when it was better than older methods; then the actual cautery, which was a step forward, in indicated cases; and finally have given the sublimate injection a proper and extended trial. I have not used Saemisch's incision much of recent years. In proper cases electro-cautery has been a most rapid and pronounced success. So, too, the sublimate injection has been followed by most excellent results. But in none of these cases was the proper internal Homœopathic remedy omitted, and all of the foregoing statements lead up to the presentation of the following case to prove that internal Homœopathic remedies do exert a decidedly beneficial influence in this dread disease as in all others:

On the 6th of last November, Mrs. M., aged 45, from a suburban town, in breaking a lump of coal was struck in the right eye by a flying piece. A small foreign body was removed from the cornea by some member of her family, and she had no trouble with the eye until the next day, when it commenced to pain. On the second day it became more and more troublesome, and she went to her family physician, who said there was a little ulcer, with pus in it, which must be wiped away, which he did with some instrument, as I was informed. This wiping away process was repeated on the following day. After this the pain became excessive and the inflammation increased, growing continually worse and worse—so painful as to prevent sleep.

She finally came to me ten days after the original injury. Examination of the right eye showed a deep, white, ragged ulcer in the central corneal segment, with intercorneal infiltration in the lower half. There was general ocular congestion. She could just count my fingers at a distance of two feet. It was clearly a case of infectious corneal ulcer.

The ulcer region was carefully cleaned with a weak Bichloride of mercury solution and the ulcer proper touched with a Carbolic acid solution 1 to 10 and Arsen. alb. 6th given internally. She was also given a Boric acid solution—gr. x. to ʒj—for use in the eye for cleansing purposes.

The violence of the inflammation soon abated and was under control in a few days. The ulcerating process extended somewhat, and pus was seen in the anterior chamber, which was rapidly half filled with the exudation. Hepar sulph. 3d was then given and the local treatment kept up. To make a long story short: The inflammatory process was stayed, the pain ceased, and soon the hypopyon began

to be absorbed, and finally the last vestige disappeared; the ulcer filled in and healed over, leaving only a thin cicatricial opacity a little below the corneal centre, obstructing the direct vision somewhat. With this exception, the eye was whole again—no pain, redness or other signs of inflammation.

I very much doubt that any other line of treatment could have accomplished more.

In this case the local treatment was simple and only cleansing in its effect. Of itself it could not have influenced the extensive hypopyon; hence its rapid absorption after the use of Hepar sulph. must have been due to the internal remedy alone.

In the treatment of such cases it seems to me that there are two extremes. The one where the treatment is purely local. This has its place and should never be neglected for its cleansing and antiseptic effect. The other extreme is to depend on the internal remedy alone, neglecting all local measures. This, no doubt, has its beneficial influence; but it leaves the aggravating extension and development of the local septic disease, and hence it is faulty. The ideal method of successful treatment is, then, the one which intelligently combines both the local preventive and the internal curative method, as demonstrated by the above experience. And no matter which form of local treatment may be adopted, the properly indicated internal Homœopathic remedy should always be first and foremost in our minds.

The Employment of the Trephine in Cerebral Abscess Due to Ear Disease.

By J. Martine Kershaw, M.D., St. Louis, Mo.

I have long felt the importance of radical treatment of disease of the brain of an obscure nature having some apparent relationship to disease of the ear. I have used the word obscure. Such diseases were obscure some years ago, but are not or should not be now, with our great clinical advantages and our improved means and methods of diagnosing disease. A history of otorrhœa, in a subject who has had one or more convulsions, is apathetic, stupid, temperature normal, perhaps sub-normal; pulse slow, fifty to sixty beats per minute; patient, if conscious, speaks slowly but intelligently. These symptoms point in the direction of cerebral abscess. This is not an infrequent disease. Indeed, it is perhaps much more common than many of us are aware of.

Hubbell, in reporting a case of otitic brain abscess, says: "As the literature of the disease shows, and especially during the past ten years, when surgery has greatly augmented the statistics, brain abscess of otitic origin is found to be by no means an extremely rare affection. Within my own observation, during the past six years, I can recall at least eight undoubted cases, in two of which the diagnosis was confirmed by post-mortem examinations. Nearly all experienced practitioners probably could bear similar testimony. Many cases of brain disease, furthermore, were probably otitic in origin, but the ætiology had been overlooked."

Arthur E. Barker, of London, found that in ten years (1878–87 inclusive), according to the registrar-general's reports, 3570 had died from "otorrhœa." He adds: "If it were possible to sift all these latter groups ('simple meningitis', 'unclassified brain disease' and 'general septic affections') and to rearrange them according to the primary causes of death, there can be no doubt that these annual 400 deaths, attributed to ear disease, would be swelled to four or five times the number."

Dr. G. Newton Pitt, of London, in an analysis of 57 autopsies of cases in which ear trouble had set up brain disease, found that they were from a total of 9000 autopsies, showing 0.66 per cent. "Further

examination shows," he says, "that 27 of the cases had occurred during the last four years, which would raise the ratio for that period to 2 per cent."

Dr. Thomas Barr, of Glasgow, found that in London, in 1882, there were 86 deaths attributed to otorrhœa, and in eight principal towns of Scotland the number for one year was 26. He believes these numbers, "considerable as they are, do not express anything like the real number of victims of this disease who perish annually" in these places.

In 1892, Dr. Frank Allport, of Minneapolis, Minn., collected 169 cases, mostly reported since 1879, each of which had had "an ear difficulty resulting in intracranial trouble, death and an autopsy," or had had "an ear difficulty and the intracranial cavity had been exposed by operation."

I might add much more and similar testimony in this direction, but the above is amply sufficient to show that intracranial disease arising from otorrhœa is not a rare affection. Moreover, the otorrhœa need not necessarily be chronic in its nature, as Eulenstein has recently reported 18 cases of cerebral abscess developing after acute inflammation of the middle ear or temporal bone, and Allport has reported 10 cases. Cerebral disease following ear disease has been so frequent that most insurance companies regard suppuration of the middle ear as a sufficient cause for the rejection of an applicant affected by it.

Ear suppuration does not always lead to the same disease of the brain, or to disease in a particular part of the brain. For example, the intracranial affection may be phlebitis and thrombosis of the large sinuses or meningitis or cerebritis, with or without suppuration.

If brain abscess develop, it may be within the dura mater or in almost any part of the cerebrum or the cerebellum or even in the pons varolii. Dr. G. Newton Pitt says: "Cerebral abscesses occur rather less frequently than meningitis or thrombosis." Allport, in the 169 cases collected of otitic brain disease, found 98 of them abscesses proper. Dr. Macewen, of Glasgow, has reported 94 cases of intracranial lesions from ear disease, of which 25 were abscesses of the brain and 5 extradural abscesses.

In the majority of cases these abscesses are near that part of the ear from which the infection proceeds. Dr. Pitt says: "In two-thirds of the cases the cerebral abscesses occur close to the roof of the tympanum." In another place he says: "These abscesses are

almost always situated very close to the roof of the tympanum. . . . . Cerebellar abscesses are less common and will probably be associated with disease of the dura mater behind the petrous bone."

The position of the brain abscess, according to Von Bergmann, is always a typical one, and is either in the temporal lobe or in the side of the cerebellum corresponding to the diseased side. Dr. Thomas Barr, of Glasgow, has analyzed 76 cases of brain abscess and found it located in the cerebrum (temporal lobe) in 55 cases; in the cerebellum, in 13; in both, 4; in the pons varolii, in 2; in the crus cerebelli, in 1. Korner, in 100 cases of brain abscess, found it 62 times in the cerebrum, 32 times in the cerebellum, and 6 times in both.

When the abscesses are in the cerebrum they are, according to A. E. Barker, situated "almost invariably in the temporal lobe, behind a line drawn vertically through the tragus. From this they may extend backward into the occipital lobe to a greater or less extent, and very rarely forward toward the apex of the temporal lobe. But these exceptions are so uncommon that they need hardly to be considered for practical purposes." In the cases of cerebellar abscesses we find them, he says, "almost invariably seated in the anterior portion of the lateral lobes, where these lie in contact with the posterior surface of the petrous bone and lateral sinus."

MacEwen, in 17 cerebral abscesses, found them in the temporosphenoidal lobe 10 times; in the frontal 2; in the parietal 1; "superficial" (ulceration of brain), 4.

So much for the frequency and situation of otitic brain abscess. As to results of treatment, it may be said that before 1886 it was well-nigh helpless, unless, perchance, a spontaneous opening and evacuation took place. In 1885, Schedé, after having chiselled open the mastoid, found, two weeks afterward, symptoms of brain abscess, and by these symptoms, the great œdema, above and behind the mastoid, and a fistula extending upward and beneath the periosteum into diseased bone, was led to extend his former opening by chiselling until the abscess in the brain was reached and evacuated. In the same year, A. E. Barker made the more signal innovation of proceeding at once to find and evacuate a cerebral abscess, acting alone upon the evidence of the diagnosis, "quite independently of visible or tangible change, beyond a slight moisture of the middle ear, there being no evidence whatever externally as to what was going on within the skull." The reports of these two

cases gave a wonderful impetus to the surgical treatment of brain abscess. What have been some of the results? In 1893, Heiman reported 32 cases operated upon, 17 of them recovering. Von Beck has collected 36 cases that have been operated upon, including 29 in the temporal lobe, of which 17 of the latter were cured. Korner says: "Of the 55 abscesses which thus far have been evacuated, 29 ended in recovery, 26 in death." Macewen published, in 1893, 25 cases of brain abscess, of which 19 were operated upon, and all but 1 recovered. Dr. Barr, of Glasgow, in his address at the International Otological Congress, held in Florence the past year (1895), said that at least 59 cases of cerebral and 7 cases of cerebellar abscess had been successfully treated.

Such results as these, in otherwise hopeless cases, mark a surgical triumph and a saving of life that compel a study of diagnosis, and a determination of pathological conditions in this direction, never before so imperative as now, and on the part of all practitioners of medicine. Von Bergmann has forcibly said: "Whoever knows, as we do, that there is no other termination to cerebral suppuration than a fatal outbreak in the ventricles or equally fatal meningitis, must look upon the surgical opening of cerebral abscesses as the rescue from an urgent danger in life." Sahli adds: "In this province much has already been done, and with increased refinement in diagnosis, much more remains to be accomplished."

My remarks, so far, are intended to lay stress upon the frequency with which otorrhœa leads to brain abscess, together with its most probable situation, and to bring prominently into view the rich fruitage yielded by surgical interference; and all this culminates in a tremendous urgency of correct diagnosis.

It should be borne in mind that brain abscess from ear disease is not always a simple, isolated process, but is often associated with meningitis, thrombosis and mastoiditis. When these or other associated affections are present, the symptoms of abscess may be confused and masked. Hence, in restricting myself here to the diagnosis of brain abscess alone, the possibility of the coexistence of other diseases should not be forgotten.

To summarize, then, the diagnosis of brain abscess is made probable by:*

1. The history of the case and of a preceding otorrhœa and ear trouble.

2. Those general symptoms pointing to inflammation in the cra-

* Hubbell, in *Buffalo Medical Journal.*

nial cavity—namely, headache; nausea; vomiting; chilliness or chills; moderate elevation of temperature.

3. Those general symptoms indicating supparation: headache; chills; temperature a little elevated; nausea and sometimes vomiting; dizziness; optic neuritis, not always; followed by

4. Those symptoms caused by pressure from accumulation of pus: mental sluggishness; temperature, not high, occasionally sub-normal; respirations, less frequent; pulse, slower (50 to 65); prostration; stupor; delirium.

5. Those localizing symptoms of temporo-sphenoidal abscess: convulsions, if the cortical motor area is involved or pressed upon; aphasia, if the speech centre is reached in the left frontal lobe; hemianopsia, if the occipital lobe becomes affected; hemiplegia (opposite side and generally partial), if the internal capsule of the brain is pressed upon or involved, or if the cortical motor centres are destroyed; paralysis of the third nerve of the affected side, if contiguous pressure and meningitis are sufficient.

6. Those localizing symptoms, if the abscess is cerebellar: cerebellar inco-ordination, if there is pressure or involvement of the middle lobe of the cerebellum; persistent occipital pain in some cases.

In studying and analyzing a given case of otitic brain abscess, the differentiation must be made between it in its different stages, and acute purulent otitis or mastoiditis, meningitis, thrombo-phlebitis of the large brain sinuses, extradural collections of pus, and brain tumor, the symptoms of which I must pass over at this time.

Most writers regard the diagnosis of brain abscess as difficult, while others seem to view it as comparatively easy and certain.

Heiman, of Warsaw, says: "In three-fourths of the cases of otitic brain abscess the course is such that a diagnosis can be made. The careful weighing of all the symptoms, the localization of the bony affection (temporal bone, A. A. H.), the ætiological elements, and the length of time the patient has been under observation, if carefully considered, enable us not only to diagnosticate the abscess, but often to locate it." Dr. Barr says: "That an uncomplicated abscess in the temporo-sphenoidal lobe may be said now to belong to the region of certainty."

Should there, however, remain doubts as to the existence of abscess after earnest and careful study of suspicious symptoms, an exploratory operation should be performed and search made with aspirator for the presence of pus. If pus is found, the operation

may be extended so as to evacuate it; and if not found, the wound may be closed without jeopardizing the life of the patient. In three cases I have seen the exploratory operation made without finding pus and without shortening the life of the patients.

Von Bergmann in his monograph upon the surgical treatment of intracranial disease (Hirnkrankheiten) asserts that the history of otorrhœa, past and present, together with persistent sleeplessness and a temperature remaining steadily at about 99°, are sufficient indications for opening the cranial cavity for the purpose of exploration.

The following case, which is described by Von Bergmann,* offers a good illustration of the history of an abscess secondary to ear disease:

The patient had suffered from time to time, during fifteen years, from a purulent discharge from the ear, with occasional earache. The pain suddenly became more severe than usual and he began to have attacks of vertigo; in the course of a few days his appetite failed; he began to feel sick and have chills and fever at night. At the same time headache became very severe and kept him awake at night; this headache was general, but more intense upon the right side, which was also tender to percussion. When admitted to the hospital, a few days after these acute symptoms had begun, he gave the impression of being a very sick man; was apathethic and stupid, and answered questions with difficulty and slowly; his skin was slightly yellowish, and his tongue thickly coated; his temperature was 99 degrees and pulse only 50; there was a slight difference in the power and sensation of the extremities, his left arm and leg being somewhat weaker and less sensitive than the right ones. There was an occasional twitching in the right side of the face; the pupils were equal and reacted promptly; the right ear was filled with granulations and was discharging pus; the hearing was much diminished. The mastoid process was not swollen or tender, but percussion above the ear over the temporal lobe was very painful.

The symptoms mentioned increased in intensity during the following week; his pain became greater and his mental condition more stupid. Von Bergmann then trephined above the ear, exposing a space 3 cm. square. The dura pulsated, and when it was divided the brain bulged into the wound. Incision into the brain

* Starr on *Brain Surgery.*

did not at first reveal the abscess, but the third incision, directed somewhat forward, gave exit to 30 c.c. of fetid green pus. Exploration by the finger showed the abscess cavity with a thick wall. This was washed out with Iodoform ether and drained by a tube 4 cm. long; the tube was surrounded by layers of Iodoform gauze which protected the brain and membranes from contact with the pus, and the wound was thoroughly washed out before being dressed.

The pulse rose from 50 to 88 as soon as the pus was discharged; a daily change of dressing with a progressive closing of the abscess followed, so that on the ninth day the drainage tube was shortened, and by the end of the sixth week the wound had entirely healed. From that time for a year following the patient was in perfect health.

Stimson* has reported the following interesting case:

M. D., aged 39, took cold and developed an acute otitis media, inflammation of internal ear, with discharge of pus from the left ear in December, 1890. A month later he was admitted to the New York Hospital suffering from chronic ear discharge and from severe pain in the left side of the head. He had had a convulsion two days before his admission and had been in a semi-comatose condition with intervals of restlessness and delirium since. On admission there was tenderness on pressure over the mastoid process, but no redness or œdema. Pupils were normal; temperature 102 degrees. He remained in a semi-comatose state for six days, growing worse, and then Dr. Stimson operated. A curved incision was begun behind the base of the mastoid process and carried forward and upward, passing close to the ear for about four inches; the flap was reflected, the bone exposed, and an opening three-fourths of an inch in diameter made through it with a chisel above and slightly behind the external auditory meatus in the posterior part of the squamous portion of the temporal bone. An incision through the dura gave exit to about three ounces of pus. The finger passed freely upward and backward. It was thought that an abscess had formed between the meninges, and not in the substance of the brain, and that it had especially compressed the posterior part of the temporal lobe in its inferior and outer surfaces. A drainage tube was inserted and the wound closed.

A few hours afterward his mental condition had improved and pain was less. The improvement was progressive and the wound healed six weeks after the operation.

* Starr on *Brain Surgery*.

Meanwhile his cerebral functions presented interesting features. During the first fortnight he seemed intelligent, but was unable to comprehend his surroundings. He would listen intently when addressed, and answer inarticulately, occasionally uttering a word that could be understood, but which was usually unrelated to the question. It was not until the second week that he could name objects. He still failed to recognize faces at the end of the fourth week, and was still unable to read. A month after the operation he began to remember things, and then, little by little, the recollection of the past and of his illness returned; but he had no memory of his admission to the hospital, or of his first month's stay. He spoke of the difficulty he had had in calling things by their names, and said the difficulty persisted, although it was very much less. He also had difficulty in reading. He could write his name rapidly. There was no paralysis, but his walk was feeble. He eventually recovered entirely.—*N. Y. Med. Jour.*, May 30, 1891.

Starr says "the best spot for trephining is one and three-fourths of an inch above and one and one-fourth of an inch behind the external auditory meatus, since at this point the temporo-sphenoidal lobe will be reached with the greatest ease. An attempt has been made by some aurist to approach the brain through the mastoid cells, but this seems to me to be very bad practice, as the thickness of the bone is great, the position is too low to reach the brain, there is danger of entering the lateral sinus, and it is impossible to lay bare a large region of the brain." This has been my experience. Bearing in mind the facts mentioned in this paper, we cannot do less than investigate every case of brain disease associated with ear disease. If satisfied that an abscess exists, exploratory measures should be adopted without too much delay, as death is the only outcome of a disease of this kind. I have said an exploratory measure because sometimes pus cannot be found, although the surgeon may be well satisfied of its existence. Generally, however, it can be found, and upon its evacuation improvement usually sets in immediately. The pulse rises, respiration becomes easier, the expression changes, the mind clears, while the whole condition of the patient is immensely changed for the better. Every ear trouble should receive attention, particularly suppurative disease of the middle ear, but when extension to the brain takes place, radical measures, such as the use of the trephine, should be employed, as the disease has now passed beyond the reach of medicine, and surgery only can save the life of the patient.

Some Observations on the Examination of the Eyes of the Public School Children of Baltimore.

By Charles Leslie Rumsey, M.D., Baltimore, Md.

Since our Institute met in Newport the public school children in Baltimore have had their eyes examined by order of the Board of Public Education. Each teacher had his scholars read the Jäger type. Those who failed to show normal vision were obliged to present a certificate to a dispensary or the office of an oculist. On this certificate were written the results of the examination and treatment. The query, "Could patient further continue his or her studies without injury to present vision?" was appended to the certificate.

In this paper my effort is not to advance new truths, but to give the results of a clinical experience and study of these cases. Some of the facts have not elsewhere been noted by the writer. By a comparison of cases from other educational institutions in Baltimore which have been treated by the writer, it is apparent that defective vision among the public school children is in greater proportion.

The following facts are gleaned from two hundred and sixty-four patients: The eyes of the negro were given a separate study and numbered twenty-three cases. The ages ranged from five to eighteen years. Let it be remarked that teachers have found apparently stupid children become efficient students by proper treatment and glasses prescribed for defective vision.

The eyeball of the human race is rarely emmetropic. When we realize the susceptibility of the eye of youth to disease and the nervous pressure upon the young, such special examination must be beneficial to the community at large.

In carefully compiling our records of dispensary and private cases, it is observed that astigmatism is much rarer, simple hypermetropia is commoner, simple myopia and muscular insufficiency are less frequent than in similar reports.

Myopia was noted in but one case under 6 years of age. It prevailed in proportion as the scholar was advanced in his or her studies, and increased according to the hours of application. More females suffered from myopia than the other sex, in the proportion of two and a half to one. Is not this condition due to the

comparative weakness of the sex and the nature of their work outside of school? It is believed that the strain upon the eye presenting forms of emmetropia, especially astigmatism, rather than heredity, produces and increases myopia. This strain is a part of the education of to-day. It was found that 95 per cent. of cases of myopia had astigmatism in one or both eyes, and at least 30 per cent. had insufficiency of muscles. It is reasonable to deduce that a simple, uncomplicated myopia—a myopia without astigmatism, anisometropia or heterophoria—seldom exists. The early correction of these errors is a valuable prophylaxis. In children just beginning school life such correction will bear fruit in the diminution of high myopia in the next generation. Faulty illumination, desks unsuited to size of student, indistinct and small print are factors which develop myopia in our public school children. From these statements it would seem wise that boys and girls should not be permitted to use their eyes for study until they are 8 years of age. Herein lies the excellence of the object method of instruction used in the Kindergarten. Such instruction may well precede, for two or three years, the book-study. The child will then be better able to bear the strain of protracted accommodation.

High degrees of hypermetropes were found more painful than low degrees.

Astigmatism was frequently found among hypermetropes; its presence was almost invariable among myopes. Whenever the predominant diffusion lines of any object upon the retina of one eye and the normal or diffusion line image in the other eye do not fall upon corresponding retinal points, the action of the oblique muscles causes compensatory rotation of the eyeballs in astigmatism to secure binocular single vision. The astigmatism of less than one dioptre, rather than of a high degree, proved more potent in producing headache, giddiness or other symptoms than possibly could be induced as a reflex to an over-exercised ciliary region. When the former astigmatism existed, particularly one-quarter or one-half dioptre, perfect vision could be obtained by an effort of the ciliary apparatus. With astigmatism more than three-quarters dioptre, no effort of accommodation brought about clear vision, and the ciliary apparatus gave up the attempt in despair. It is not, then, the astigmatism that produces reflex disturbances, but the effort to overcome it. It is further observed that the effect of peripheral irritation must depend not only upon the degree of such irritation, but also upon the excitability of the brain and reflex centres.

From experience with the ophthalmometer, skiascopy and retinascope it is noted:

First.—High-degree astigmatism is mainly corneal.

Second.—Low-degree astigmatism is present more frequently in the lens.

The axis in corneal astigmatism is generally with or against the rule. When it is complicated with lenticular astigmatism, or when the latter alone exists, the axes vary, even in both eyes of the same patient. The principal meridians of the corneal astigmatism correspond usually with those of the total astigmatism in the higher degrees. In the lower degrees there may be, and commonly is, much difference. If, for example, there is corneal astigmatism of one-quarter or one-half dioptre, the principal meridians of the total astigmatism are often placed near 45° or 135°.

Mixed astigmatism was found in three cases, all of whom were girls, and the axes were near 45° and 135°. Let me add, from the study of another list of cases, the axes were vertical and horizontal. The axes vary in this condition.

Perfect equilibrium of the ocular muscles is by no means a common condition, even among persons of sound health and without asthenopia. The power of the ocular muscles varied with the same tests at different visits. In nervous children and those whose health was impaired by recent illness the ocular muscles would at one time show a relative weakness and at another time the test would be negative. As patients recovered their general tone and strength, a proper equilibrium of these muscles returned. Slight ocular insufficiencies may not produce discomfort, and variation in the muscular power is natural.

It must be remembered, nature warns us against over-exertion in any direction by means of conscious fatigue. We should endeavor to rectify the often complex causes which lie at the root of insufficiency of the muscles. As is well known, in every case of heterophoria, we should first eliminate the effects of accommodative errors by correcting the refraction error.

Headache was the most prominent nervous symptom attributable to ocular difficulties. While refractive error was a more common cause in the production of headache than muscular error, the latter was more certain to produce headache. As is found in the books, refractive error gave rise to frontal headaches and heterophoria to occipital headaches. Of astigmatism, the compound hypermetropic, and of heterophoria, error in the vertical movements, produced the

most severe types of headache. A combination of this vertical muscular error with compound hypermetropic astigmatism was observed to have produced almost a delirium in a case. The excessive expenditure of nervous energy to maintain clear and single vision in refractive and muscular errors causes a variety of symptoms. These varied with idiosyncrasy, age, condition, mode of life, etc., of the patient. By the consumption of nerve force a state of neurasthenia is often produced.

Dizziness came next in frequency. Other symptoms were nausea upon use of the eye, twitching of the eyelids, slight general choreic movements, rapid exhaustion upon exertion of any kind and insomnia.

No notable results were obtained in three cases of chorea, nor in one case of epilepsy, in correcting the errors of refraction or insufficiency of the ocular muscles, except the relief proper glasses would give to faulty sight. This confirms other observations. The removal of young choreic subjects from school is a step commonly taken by physicians while treating chorea by drugs. It must be apparent the rest thus given to the eyes and nerve centres is a factor in the recovery of these cases. The observing general practitioner will confirm this proposition as he looks among the neurotic families of his acquaintance and notes the use of glasses and tenotomies have not lessened the cases of chorea and epilepsy. If the correction of these ocular errors, which discovery was claimed would vie with those of Jenner and Lister, had proved efficacious in treatment, it would have been placed in the category of rational and scientific therapeutics. The writer has noted, however, evident variation in the equilibrium of the ocular muscles before and after an attack of epilepsy.

It was learned that excessive onanism had its effect upon the visual organ. The difficulty in obtaining an accurate statement and the aversion with which questions were answered, particularly among young girls, made the study unsatisfactory. Ophthalmic literature is abundant in the relationship various diseases bear to the eye, but contains no articles on this subject. A series of observations were made which were confirmed in so many particulars that it would be difficult to deny a causal connection between onanism and eye-diseases. Every effort was made not to confound the "*post hoc*" with the "*propter hoc.*"

Unless congestion of some coat or coats of the eye existed, the ophthalmoscope revealed nothing abnormal. It is not the writer's

intention to enter upon theoretical discussions and suppositions. Cases complicated with refractive errors, muscular insufficiency or diseased coats were excluded in the study of these matters.

The most prominent symptoms were photopsiæ and subjective perceptions of light, which affected both eyes. There was photophobia sufficient in a majority of cases to interrupt reading and study. There seemed to be in these conditions a hyperæsthesia optici. The cause of this irritation probably lies in the brain. As there are normal variations of the redness of the retina and distribution of the blood-vessels of nerve entrance, it is difficult to define when a pathological hyperæmia begins. It was demonstrated, however, that masturbation will often cause hyperæmia of the retina and optic nerve. This was found in patients from twelve to sixteen years of age. Whether this habit is acquired at this time of life or the eyes are more sensitive to expansion of nerve force is to be determined. Very likely both causes are associated together. In all cases there was pain around the loins. In one case the knee reflex was not marked. Clonic spasm of the orbicularis muscle occurred in two cases. It may be caused by continued work at near objects and especially by artificial illumination. An intractable case of retinitis is recalled, which is not included in the observations of this paper.

It is well known that the negro race in America is fast losing its identity as far as purity of blood is concerned, the mulatto being seen on every hand. Syphilis was introduced and spread extensively among them during the war. Evil habits and careless living have taken possession of many of the race, which is now honey-combed with syphilis and its sequelæ. The writer has been advised by reliable oculists in the South that this race had little eye trouble beyond cataract before the war, yet ulceration of the cornea and its sequelæ were found in more than one-half of the cases examined. Blindness and greatly impaired vision were observed, due to ulcerative keratitis. Iritis was of next frequency.

There was no case of myopia nor muscular insufficiency.

There were three cases of strabismus convergens. Of refractive errors, they were, usually, compound hyperopic astigmatism.

If a strumous diathesis localizes itself, particularly in the epiblastic structures, syphilis, acquired or hereditary, affects the mesoblastic structures of the eye, drugs can have an affinity for special tissue elements. It may be added, the glory in this and all eye-work by the writer has been invested in the law—"Similia Similibus Curentur."

REPORT

OF THE

SECTION IN NEUROLOGY.

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Amyotrophic Lateral Sclerosis—Illustrated by a Case.

BY H. V. HALBERT, M.D., CHICAGO, ILL.

THIS is a disease which is symptomatic of the second stage of progressive muscular atrophy. It is characterized by degeneration of the motor nuclei of the cord and brain. As it is generally observed it is a spinal affection which partakes of cell atrophy and is illustrated by a corresponding muscular wasting. It is chronic in its manifestations, and is, therefore, properly defined as a chronic degeneration of the motor nuclei. It is often incident to a previous anterior poliomyelitis, and thus it may be called a chronic anterior poliomyelitis. Its peculiar pathological identity is explained by the involvement of both the anterior motor cord cells and the pyramidal tract.

Progressive muscular atrophy is a disease wherein the spinal motor cells are involved. It begins in the cervical and lumbar enlargements, and develops gradually in accordance with the motor function. So long as the cells alone are implicated the resultant paralysis is one of muscular insufficiency. When the motor fibre tract is invaded spasticity is added, and then we term it amyotrophic lateral sclerosis. If this process passes into a more chronic development, the higher or medulla motor nuclei are affected, and we have a bulbar paralysis.

Our topic, therefore, considers one phase of progressive muscular atrophy, but as any cell degeneration is sure to pervade the corresponding fibre tract, it is the most prominent feature of this disease. It may be rightly called a systematic disease which attacks the anterior parts of the cord, just as combined ataxia involves the posterior part. In other words, its symptoms represent a spinal wasting plus a spastic condition.

As for ætiology, it may be said that its primary indication begins as a myopathy. Its first expression is, therefore, seen in the muscular system and not in the nervous architecture. Peripheral neuritis, then, is one of its developing factors, and nervous shock or exposure to climatic changes may be an inciting cause. Toxic invasion of the central cells, generally as a result of some febrile action, may be the first predisposing influence. For that reason we deal with a disease which has no relevancy to specific origin as is so frequently found in other nervous affections.

Again, it is not of rapid development, and hence belongs to the later periods of life. Hereditary prodroma are not often recognized, and for that reason it is an individual degeneration.

The morbid anatomy shows first a degeneration of the terminal motor nerves simultaneously with the muscular wasting. Atrophy of the cells of the anterior horn, with a corresponding neuroglia increase, characterizes the second pathological stage. Sclerosis of the antero-lateral tracts accounts for the spasticity and the clinical features which give the amyotrophic phase. The same involvement of the medulla and pons portion of the pyramidal tract accounts for the later bulbar symptoms which are often overlooked.

In all probability a similar sclerosis enters the cerebral cortex in line with the motor fibre distribution. For that reason we may explain the general paresis which is often apparent in older subjects. It is differentiated from a multiple sclerosis inasmuch as it is systematic in its development, and is confined to the pyramidal tract and the spinal and cerebral cells concerned in its function.

The symptoms of the primary stage are often so insidious that they are mistaken for rheumatic pains, and, unfortunately, the treatment is neglected at this most opportune period. In fact, the diagnosis is rarely made before the thenar and hypo-thenar wasting is manifested and the progressive muscular atrophy is well under way. Even if the degenerative process could be stopped here the disease would not be so hopeless as it is in the amyotrophic state. In this we find, in addition to the spasticity, a peculiar fibrillation or muscular twitching, not only of the muscles involved, but of those of associated action. This, to my mind, is the most prominent clinical exponent which demonstrates the sclerotic invasion of the pyramidal fibres. It represents the fibrous or neurogliar increase in the neighborhood of the motor cells wherein the motor innervation is not properly produced or conducted along the fibre tract or the peripheral nerve. More than that, it shows the beginning of the paralytic effect and the cord lesions which rapidly lead to incurable muscular contractions. It is the half-way period in the disease progress, which, if not arrested, renders the case hopeless. At the same time it offers us the last opportunity for successful treatment.

To illustrate the foregoing anatomical considerations, I will quote an unusual case which came under my care two years ago: George F., a bright young man, 19 years old, came to my clinic for the purpose of getting relief from a supposed paralysis. About two years previous he had contracted a hard cold and inflammatory fever, as a result of a severe drenching in the rain. The rheumatic features continued intermittently for several months. As he found relief from this, he began to notice a peculiar weakness of the hands. He could not perform delicate manipulation with the fingers, and very soon the characteristic atrophy of the thenar, hypo-thenar and interossei muscles appeared. The contractions of the hand flexors became so extreme as to give a decided "griffin claw" appearance. Succeeding this, atrophy of the upper arm muscles appeared and a consequent paralysis was evident. To some considerable extent the atrophy invaded the trunk and lower extremities, so that the patient began to assume the aspect of a living skeleton. Fibrillary twitchings began to increase, both in the upper and lower, and along with this unusual flexor contractions were manifest. There was some evidence of bulbar involvement, for deglutition and speech were slightly affected, and the motor cortex inhibition was not perfect.

The next complication was observed in the sudden appearance of a pronounced spasticity, which was mostly noticed in the lower extremities. This deprived him of the perfect power of locomotion

so much that he seemed to be suffering from paraplegia. The spasticity of the upper was equally prominent, though it did not inconvenience him so much. The general debility was so great that he was almost unable to perform any of the motor functions with ease.

The points of interest in this case are as follows:

1. The appearance of the disease in so young a patient, when it generally occurs at a later period in life.

2. The absence of any signs in the history or heredity which might be causative of the disease.

3. The rapid muscular atrophy followed by the extreme spasticity.

4. The apparent general health of the patient despite this nervous affliction.

The treatment of palliation, which includes massage, electricity, stretching, etc., had been used for some time with little satisfaction. It was our aim, therefore, to attempt a cure with the remedy alone. Argentum nit. 3x, and finally the 30x potency were administered for the following reasons:

1. Because the physiological action of the toxic dose affects the motor cells similarly to the degeneration in this disease.

2. Because of the trembling or fibrillation which indicates the beginning of cell atrophy and the weakening of cord innervation.

All of these physiological symptoms are fundamental characteristics of this remedy. That they were applicable in this typical case will be readily observed.

It is now nearly a year since the treatment was instituted. While the patient is not yet cured, there is enough of encouragement to feel that we are on the right track and that some hope is possible. The muscular atrophy has not increased; the fibrillary twitchings have disappeared; the spasticity is very much improved; the muscular strength and co-ordination are more natural; the patient has gained flesh and is enthusiastic with the hope of recovery. Inasmuch as he is so young, and the remedy seems so clearly indicated, I have taken the courage to make this report, thinking that it may possibly add to our confidence in our therapeutic law. More than that, I trust it may teach us not to neglect so many neurological cases with the belief that they are incurable.

In substantiation of the previous pathological statements, I would like to say, in conclusion, that when any pronounced weakness of muscular activity exists for any length of time, and when atrophy

and the necessary resultant paralysis is succeeded by muscular fibrillation, we may know that amyotrophic lateral sclerosis has begun. Then, if not previously, the most careful and systematic treatment should begin.

With a patient of fair physical health and of middle age the prognosis should not be too grave. If the Homœopathic law means anything, it will respond when applied to a diseased nerve cell, and if we depend upon this more than the local adjuvants and the stereotyped panaceas, we may do more for our patients.

Discussion.

N. B. Delamater, M.D., Chicago, Ill.: The first point that came to my mind was the general one of the application of remedies, and by remedies I don't mean simply medicines, but the whole line of remedies, both local and constitutional, to the individual case presented. We should realize the significance of the pathological condition present in these cases, and determine whether we have the muscular weakness as the result of lowered nutrition in the muscle itself, or whether it is derived from the central organ. Now, it seems to me that this point should have been brought out in this paper, and it would then help us to determine the cases in which we should expect to get results by the external application of electricity, rubbing, etc. It seems to me, therefore, that we must undertake to do what can be done to arrest the death that is taking place in the nerve cells. I am free to say, so far as I know, that there is never much possible hope in this kind of cases, unless it be through a careful selection of the Homœopathic remedy. The paper brings out one case where Arg. nit. seems to have done some good. Subjective symptoms and objective symptoms in these cases are very few, and what symptoms are present we cannot find in the proving of this drug. Now, if we have a drug in Arg. nit. that will produce this condition, then we have in Arg. nit. a remedy which will fit these cases symptomatologically as well as pathologically. If we cannot do this, then we must fit the remedy to the patient, and take into consideration the environment, temperament and disposition of the patient. Professor Allen spoke yesterday of a case of locomotor ataxia which he had had recently, and he treated him as a patient independent of the disease, and the case improved. In that way we can get, possibly, help in these cases, especially where we have nothing else to guide us.

H. W. Pierson, M.D., Chicago, Ill.: I am not a specialist, but simply a Homœopathic physician, and I have but two points which I wish to make. First, we do not realize how many of these cases have been arrested before they have reached the last stage. There is no department in medicine which is so interesting as this very study of nervous and mental diseases. If we look on it from that stand-

point and treat the patient regardless of pathology, we will get results that will not only surprise the patient, but ourselves. We have in the case under discussion one which, being free from symptoms, got improvement under Homœopathic treatment. There are but few remedies that will reach so deeply into the system as to arrest these conditions, and Arg. nit. is the most satisfactory when taken early in the disease. You will find indications for it in any directly nervous state, and the mental impressions for which it may be given are fear, restlessness, fatigue, etc.

E. R. MacIntyer, M.D., Chicago, Ill.: The paper, Mr. President, was one of great importance to me, inasmuch as I have seen some of these cases myself. These cases are considered hopeless by the Old School. As the paper was being read, some points impressed me very much, especially the time of treatment and kind of treatment. There is no doubt but that this condition is one which must be taken in the first stage if it can be cured. The old idea was that these cases were hopeless, but Dr. Halbert has proven that they are not hopeless. Now the question arises as to the time of treatment. The majority of these cases are not taken to the specialist until they have reached a serious condition, when it is absolutely impossible for us to expect to cure them. When taken in time, if we expect to benefit them, we must be careful in the selection of our remedies. The Old School has two remedies, Arg. nit. and Strychnia, but they give too large doses and get no results; but when we give them in Homœopathic doses results are more satisfactory. I don't think much of Strychnia in this condition, but I have had good results from Arg. nit. So far as electricity is concerned, I don't think it is of very much use. As regards pathology, I know that some Homœopathic physicians disregard it, but I don't know how you can ignore it and prescribe intelligently. I do not think that these cases are always hopeless.

O. R. Long, M.D., Ionia, Mich.: In cases such as are now under discussion I have obtained better results from Gold and Arsenic than any other remedies that have been mentioned. I do not know what the so-called regular school uses in these cases, but I think the last speaker does them some injustice, for I can certify to some good results in such cases from the use of Argentum nit. and Strychnia. To get the benefit of any treatment, remedies should be applied early in the disease.

H. V. Halbert, M.D., Chicago, Ill.: After reading my paper I feel that I have taken all the time which belongs to me. The patient whom I referred to was a young man, and, therefore, I attribute much of the success of my treatment to this fact. An older subject might not have yielded so readily to the remedy. Notwithstanding, I still feel that the indicated remedy is of more value than the local treatment.

Reflex Paralysis.

By C. T. Hood, M.D., Chicago, Ill.

Case I.—Eddie F., aged 5½ years, presented himself at the Neurological Clinic of the Chicago Homœopathic Medical College, May 10, 1891. The history of the case was as follows:

Father 36, in perfect health; mother 28, in perfect health. There was absolutely nothing in the family history, either on the father's or mother's side, that would point to heredity. The gestation with this child was normal; the labor was normal. He was a perfectly healthy baby, with the exception of some slight digestive trouble. Began to cut his teeth at 6 months of age, and at 18 months of age had eighteen teeth, having cut them without any trouble. He began to walk at 6 months of age and at 18 months could walk well. Began to talk at 15 months of age and at 2 years was making his sentences almost complete. At 3 years of age he had the measles, from which he made a perfect recovery. At 4½ years he had whooping-cough, from which he recovered perfectly. With these exceptions he was well, excepting an occasional attack of digestive trouble for a day or so, but not severe enough to call a physician.

On December 9, 1890, five months before his coming to the clinic, he had had a disagreement with his mother during the afternoon, for which she put him to bed, without any other punishment. He had a hard crying spell, then went to sleep. This occurred about 2 P.M. When his father came home, about 6 P.M., he was still asleep. When the father attempted to wake him and lift him up on his feet the boy collapsed in a heap. He was again put on his feet only to again fall down. It was found that he had absolutely no use of his legs; not so much as to move a toe. Sensation was in no way affected or impaired, nor were the functions of the bladder or bowels. During the remainder of December and January he was treated by the family physician. In February he was taken to the clinic of one of the Old School colleges in the city, where the case was lectured on and discussed as a case of poliomyelitis anterior acuta, and treated as such until April 1st, when, receiving no benefit, he was taken to several other clinics and the diagnosis confirmed.

Upon examination, the heart, lungs, abdomen, eyes, ears, nose, throat and the spinal column were found in a normal condition. The muscles of the legs were soft but not atrophied, except, perhaps, some slight atrophy from non-use. Sensation was normal; no hyperæsthesia or band of anæsthesia, or band of hyperæsthesia. The superficial reflexes were normal; the tendon reflexes absent, or not obtainable. There was no contraction or contracture of any kind, and absolutely no voluntary motion or emotional motion.

In making the examination it was noticed that he had a very long and firmly adherent prepuce, which it was thought best to break up. They were broken up without an anæsthetic, and immediately on loosening the foreskin he used his legs well, and when the work was completed he got down from his mother's knee and made his escape from the room at a good gait. He was given no medicine. In one week the father again brought him back, and it was ascertained that he had been walking from Wednesday, clinic day, until Friday night, when he again lost the use of his limbs. The foreskin was examined and found to be again firmly adherent. This time he was circumcised, and left the room on his feet with full use of his legs. He returned each week for six weeks, then again in September, then in December. He had no return whatever of the trouble and was entirely cured.

Case II.—In August, 1892, there was sent to me a boy, John C., aged 7 years. The family history was negative. His own history was negative in every way. As his mother expressed it, "never had a sick-day in his life" until the present trouble began.

In February, 1892, he had been out in the snow with his sled and had come in "wet to the skin." He was given a warm bath and was put to bed and was soon asleep. He had very seriously objected to coming in, and to the bath as well as to the bed. At 9 P.M. he was called to get up and go to his own bed, he having been put in his mother's bed. He attempted to get up, but was not able to. The mother assisted him to his own bed and he was soon asleep. In the morning he could not use the right leg, and from that time, February 6, 1892, until August 23, 1892, he had absolutely no use of the right leg. He had been treated by electricity, hypodermic injections of Strychnia, with massage, internal medication, and even Christian science, but to no avail.

A physical examination disclosed nothing in the heart, lungs, head or spine. The leg was not atrophied, rigid or contracted; the urine and bowels normal; sensation normal; superficial reflexes normal in both legs, and the tendon reflex absent or not obtainable

in both legs. The foreskin was not long, but very firmly adherent. The adhesions were broken up and the young man left the office on his feet. His mother returned with him in two weeks as bad as ever, with absolutely no use of the right leg. This time the foreskin was slit and some stitches taken, resulting in a perfect cure of the paralysis.

CASE III.—In September, 1893, Mr. S. brought his boy, William, aged 9½, to the Neurological Clinic of the Chicago Homœopathic Medical College, with this history: He had measles, whooping-cough and diphtheria while quite young. With these exceptions, he had always been well until the present trouble came on. The family history was negative. The father was 46 and well; the mother had died during her confinement, from septicæmia. The boy had gone to school at 6, and was at this time in the fourth grade and standing well in his classes.

In April, 1893, while in school, he, with another boy, was kept after school for some misdemeanor. The teacher gave them the choice of a whipping or an hour's detention after school. His companion chose the whipping. The teacher, who evidently enjoyed such séances, endeavored to punish the boy severely. He was a good, stout boy of nine, and she soon found her hands full, so that the "scene" was quite lively for a time. When the work was done she sent both boys home—William very much excited, and when he returned home and attempted to give his people an account of the case he was not able to talk; they, supposing that the trouble was from excitement, gave him his supper and sent him to bed. In the morning he was no better, not being able to express himself. He understood perfectly all that was said and could write what he wanted to say and could read, but was not able to express his thoughts. His answers were made in monosyllables and as often wrong as right. The sleep was good, the bowels, urine and appetite normal.

A physical examination revealed nothing but an elongated and adherent prepuce, which was removed under an anæsthetic, and the young man came out of the chloroform with the full use of his speech, which he has since retained.

CASE 4.—Eddie F., aged 5, was brought to the clinic of the Chicago Homœopathic Medical College in July, 1890. The family history presented nothing of any note. The father was 38 years old and well and had always been so, with no excessive dissipation; the mother was 26 and well.

This was her second child, she having lost the first child in labor,

from a prolapsed cord. The labor with this child was normal in every way. He was a perfectly healthy child; was nursed until 16 months old. Cut his teeth between 6 and 18 months. Never had any trouble with the teeth. Began to talk at 15 months of age. Had an attack of pneumonia when 3 years of age, from which he made a perfect recovery. With the exceptions of colds and slight stomach and bowel troubles at times, he was well.

In March, 1890, the boy had been as well as usual. He had his supper and had been put to bed (his bed being in the common sitting-room of the family). He was soon asleep. During the evening some of the neighbors came in to drink beer and play cards. During the process they became very much excited and it finally ended in a "free-for-all" fight. The child awoke to find his father and mother very much mixed up with some of the neighbors. The start threw him into a convulsion which, in spite of all efforts to bring him out, lasted for four or five hours. When the convulsive movements ceased, it was found that he could not use his hands, arms or legs, nor could he sit up or talk. From that date, March 12th to July 21st, he had been absolutely helpless. The urine and fæces were passed involuntarily all the time. He could eat only liquid foods, and had made no effort whatever to use his hands or legs or to talk. When set upon the floor he would fall front or back as the centre of gravity might be. He never made any complaint of any kind, or cried from the date of the convulsion.

Upon examination, the eye was found normal, the ear normal. He seemed to hear and see all that was going on, but made no effort to turn the head. No heart, lung or abdominal trouble could be found. The arms and legs were not in the least contracted. The muscles were soft and flabby, but not atrophied; they responded to both the faradic and galvanic currents. It was impossible to determine whether sensation was involved or not, as no amount of pinching or pricking with a pin would elucidate any response or any effort at response from him. The superficial reflexes were slow, but were present. The tendon reflexes lost or not obtainable. The foreskin was found long and a pin-hole os and retraction impossible. Circumcision was refused, as were any other surgical measures. He was given Apis 3x four times a day for a week. Reported that the urine was very much increased, but otherwise no change. The same remedy continued for two weeks. No change. Hellebore 3x was given four times a day for four weeks, with no results. Kali phos. 3 and 6x was then given for six weeks, with no

results. Kali iod. was then given in 5-grain doses four times a day for eight or ten weeks, without any results.

On December 21st, the mother being sick, the child was brought by his father to the clinic. Upon him we were able to make some impression; chloroform was given and the boy circumcised. The foreskin was found adherent from just back of the meatus over the entire glans. The child collapsed under the chloroform and required artificial respiration and stimulants for some time. He was taken home more dead than alive. The next morning I saw him in his home and in bed making an effort to eat a piece of bread and butter, holding the bread tightly with both hands. Sensation was perfect over the entire body, and any effort to disturb his position or to interfere with his touch-corpuscles was met with a firm rebuke. He would not get up, as he said he could not walk. The mother insisted that he could not walk, and it was necessary to get her away on an errand before we could get the boy up. He was picked up and put on the floor and a firm and positive start given him, with a command to walk. When the mother returned he was running around the room as good as new. He was kept under observation for several months, went to school and remained well. In 1893 he had an attack of malignant diphtheria from which he died.

The recital of these cases has been somewhat tedious and has taken some time, but the histories have been given, not because they are such rare cases, not because many such cases do not occur and are cured in the same way, but with the hope that out of the histories, comments and the discussion, some good may come from the study of the so-called *reflex paralysis*.

Motion of voluntary muscles is the result of—

1. A motor impulse generated in the motor cells of the motor area of the brain cortex and conveyed to the muscles by the nerve fibre.

2. A motor impulse generated by the motor cells in the anterior horns of gray matter in the cord and conveyed to the muscles by a nerve fibre.

3. The liberation of a motor impulse from the motor cells in the cord as a result of an irritation transmitted to them by sensory nerves, which result in superficial reflex action.

4. The liberation of a motor impulse from the cells in the cortex, the result of an irritation at the periphery.

5. The liberation of a motor impulse from the centres in the cortex as the result of a stimulation or an irritation received from the higher or psychical centres of the brain.

With these facts in mind, anything, then,

1. That will interfere with the generation of a motor impulse in the cortex of the brain, or with the liberation of these impulses, or with the conduction of these impulses, will cause paralysis of voluntary motion.

2. Anything that interferes with the generation or liberation of motor impulses in the motor cells of the anterior horns of the cord, or with the nerves that conduct these impulses, will cause loss of voluntary motion or motor paralysis.

3. Anything that interferes with the conduction of the sensory impulses from the periphery to the motor cells of the cord, or with the receiving or perceiving of these sensory impulses by the motor cells, or their originating the motor impulses, or the conducting of these impulses to the muscles by the anterior nerves, will cause a paralysis (motor).

4. If motion of voluntary muscles may result from an irritation from the periphery, transmitted to the centres in the cortex by means of the sympathetic, then paralysis, or a loss of voluntary motion, may result from a continued irritation at the periphery transmitted to the centres by the sympathetic, as from digestive disturbances, stomach and bowels, uterus, ovaries, rectum, prepuce, eye, ear, nose, throat, and in fact anything that can or does keep up a continual peripheral irritation.

5. If voluntary motion can and does result from the liberation of a motor impulse in the centre as the result of a stimulant received from the emotional or psychical centres, then anything that will produce over-excitement of the psychical centres or emotional centres, may produce paralysis of voluntary motion. This being true, it follows that when from excessive excitement of the psychical centres paralysis results, then any peripheral irritation transmitted to the motor centres by means of the sympathetic may prolong the existing paralysis.

These being anatomical, physiological and pathological facts, what lessons may we learn from the study of these four cases?

The cases have several elements in common.

1. The excessive emotional or psychical stimulant necessary to produce the paralysis was present in each case.

2. All of the cases presented absolutely no symptoms that would point to an anatomical lesion of any kind.

3. They were relieved by the same means, viz., removing the local source of irritation.

So far we have dealt with anatomical, pathological and physiological facts.

The explanation of how the excessive mental or psychical excitement produced the paralysis, and how the removal of the local irritation produced or brought about a cure, may be as follows:

We know that if an artery upon the cortex of the brain burst and sufficient blood escapes to form a clot, and that clot be of sufficient size and consistency to press upon the cortex so as to interfere with its minute arterial circulation, there is produced anæmia of the centre, and paralysis will be the result. We know that if in some way an embolus finds its way in the circulation and plugs the middle cerebral artery or one of its branches, that immediate paralysis will result and continue until collateral circulation can be established. Why? Because the embolus has caused anæmia of the motor centres. We know that people can be paralyzed by fear and stunned by fright. How? By the excitement or fear producing, through the vaso-motor nerves, a spasmodic contraction of the arterioles of the motor centres sufficient to cause anæmia, and hence loss of motion or paralysis.

If this be true, then anything in the shape of peripheral irritation, although it may have existed for years, may be sufficient to prolong the spasm and anæmia with the existing paralysis. The removal of that source of peripheral irritation will cause a normal circulation in the motor areas and a restoration of function.

A careful study then in the light of these facts would point to the fact that every case of paralysis or lost motion has a pathology, and that reflex paralysis may be cured by removing peripheral sources of irritation, the cure being the result of the removal of the pathological condition.

Discussion.

H. V. Halbert, M.D., Chicago, Ill.: I have the greatest respect for Prof. Hood, because I know that he is not a faddist. I am sorry, however, that he has asked me to open the discussion on his paper, for I cannot believe the cases he reports are typical of true paralysis. A suspension of function does not always mean a paralysis. The reflex disturbances of the cord do not, to my mind, give a sufficient pathological condition for a permanent paralysis. It is true that a continual brain irritation may give a spastic state which stimulates paralysis, and the same is true, no doubt, of anæmia. This will generally disappear after the proper treatment is given, if they do not get well without it. I cannot believe that an operation, like phimosis, so remote from the lesion which must cause paralysis, will accomplish all that is claimed for it. That it will remove many

nervous phenomena I do not doubt. It is a question, in my mind, whether we are not becoming a little too enthusiastic over the reflex theory; whether we are not claiming to cure disease which is not disease. I have heard it reported of surgeons that they cure cerebral tumors by orificial operation. I would like to have that much enthusiasm, but as yet I do not possess it. I wonder if we are not hypnotizing ourselves into a false belief when we entertain such theories.

C. G. FELLOWS, M.D., Chicago, Ill.: I have very little to say. I remember when Brown-Séquard, years ago, before he took up with the elixir of life, diagnosed these cases as inhibitory action, and I don't think we have got very much beyond this now. Is there anything more known than that a sensation through an efferent nerve can be carried to the centre of consciousness back over the afferent nerve and cause functional trouble? I do not know much about paralysis from anæmic conditions, but I do not believe we have got much beyond cases which he produced then. He demonstrated on human subjects and animals in the same way. It does exist, but have we not sometimes diagnosed it when it did not exist? When we get into minute physiology, we get into deep water.

H. P. SKILES, M.D., Chicago, Ill.: I haven't very much to say, but what is paralysis if it is not lost motion? These cases must have been paralyses, because they had lost motion. There is no question in my mind but that the doctor found the cause, and when he removed it the paralysis was gone. I have had several of these cases myself, but never was so fortunate as to relieve them so quickly. One thing which seems to me of great importance in treating cases of paralysis of this kind, in children as well as grown people, is the consideration of psychological influences which might be brought to bear upon them. We must get rid of the exciting cause even if it be some member of the family. I remember one case in which I completely failed, and it will illustrate my idea better than anything that I can give you. I was called in to see a child who failed to walk. I explained to the parents for over an hour the causes leading up to the difficulty, and when I got through the stepmother said: "That all sounds very well, but I don't believe it has anything to do with the case." I said: "If you don't send the stepmother away I won't have anything to do with the case. If you will send and get the child's aunt to nurse him I will treat him." The first few days the child improved while the aunt took care of him, but after that the stepmother took charge and the child went clear back.

J. J. THOMPSON, M.D., Chicago, Ill.: I have heard this over again and again every year since I can remember. About ten years ago I remember hearing my friend here at my back make the statement that it was necessary to remove every source of irritation when it is found in transient nervous diseases. It seems to me a point, and a very particular one, on which neurologists, as well as every physi-

cian who has had practice in this line, can stand. It does not matter whether it is a polypus in the nose, lack of proper refraction in the eye, or what it is, it should be removed. Since coming into the room I asked a specialist in regard to this paper, and he told me of nine or ten cases of functional paralysis which he had cured in boys by circumcision. I never saw a case of infantile paralysis in a Jew. Now, why ignore a principle that is as plain as daylight? Persons prone to be surgeons are apt to do too much operating, but this one operation wisely done should receive no kick. If I had forty boys I should circumcise them all. Not only paralysis, but many other reflexes could be relieved in this way.

O. R. LONG, M.D., Ionia, Mich.: I think an error is made in regarding the cases mentioned as true paralysis. These are cases of hysterical or pseudo-paralysis, and should be recognized, lest the physician do himself an injury and unnecessarily alarm the friends by the prognosis necessary in a case of myelitis.

DR. HOOD: There were several reasons for presenting these histories here. The first thing Dr. Halbert stumbled on in his discussion was the results we had in orificial work. He spent a good deal of time on deductions from these cases. It has been proved to me satisfactorily, if not to yourselves, that these cases had pathological conditions removed, which gave us these results. So far as orificial surgery is concerned we are not here to discuss that, but we are here to discuss this paper. Does it give us any idea as to our future treatment? The psychological element in these anæmic cases is of much importance. I could cite a number of other cases relieved in other ways. One doctor makes the statement that Jews never have infantile paralysis. That is not true at all, for I have seen many of these cases in my practice. Dr. Halbert says these cases are not paralysis, but I think he may be mistaken as to what paralysis is. I have always thought that loss of function meant paralysis. He said that trouble came on suddenly and was relieved suddenly, and that they were cases of pseudo-paralysis. But paralysis may come on quickly from an injury. For example, an injury causing pressure on the brain will produce paralysis, but you can relieve it quickly by removing the pressure. In these cases which I reported when the circulation was established the cases were relieved very quickly. One speaker says I have found the cause of the trouble and removed it. This is not so. Removal of local irritation don't remove the cause at all. Now as to the psychological element in these cases. In cases of myelitis, where the patient won't walk from fear, phychology comes in and helps us out. The greater proportion of cases of paralysis are due to anæmic conditions of the nerve centres, and if you relieve the anæmia, you will relieve the paralysis, or if you relieve any local source of irritation that is keeping up the anæmia then you will also relieve your paralysis.

The Diagnosis and Treatment of Acute Insanity.

By George S. Adams, M.D., Westborough, Mass.

When a case of insanity first comes under medical observation it may be an acute affection, and probably curable by treatment, or it may be already an incurable disease not amenable to any treatment known at the present time.

There are two factors that determine the curability of insanity—the form of disease and the duration from time of the attack.

The curable insanities are limited to the different forms of acute melancholia and acute mania, including with these puerperal insanity, which is sometimes considered separately. These forms comprise about 33 per cent. of all admissions to insane hospitals, although this percentage may be increased in the western hospitals.

The incurable insanities are those in which there is actual change in the cerebral tissues, either gross changes, as seen in general paralysis of the insane and in insanity following apoplexy, or minute changes in the cells and other tissues of the brain, as seen in chronic delusional insanity (paranoia), secondary dementia and epileptic insanity.

The chronic forms comprise about 55 per cent. of all admissions. The remainder of the admissions are chiefly toxic cases, that is, due to the use of alcohol, opium and other drugs.

The duration of insanity is of importance, as a possibly curable case may certainly become incurable through neglect of treatment, and too much emphasis cannot be given to advisability of early treatment.

More than sixty years ago, when there were but a few insane hospitals in the country, Dr. Woodward, Superintendent of the first Massachusetts insane hospital, adopted the arbitrary standard of calling all cases of less than one year's duration acute cases, and all of more than one year's duration chronic cases, and this plan has been quite generally followed to the present time. While the above rule is generally correct there are frequent exceptions. Cases of one or two years' duration can and do get well under treatment, so long as the brain is only functionally affected.

Melancholia is probably the most common form of mental disease, and in its mild forms the most curable as well. Most of the cases never find it necessary to go to a hospital, but fully recover at home. Of such cases as are admitted to a hospital the per cent. of recoveries is not as high as from acute mania, as cases of melancholia often drift about for months without proper treatment before securing hospital care and attention.

A person suffering from melancholia is depressed; his emotions are painful; he is introspective and concentrates his thoughts upon himself; he loses interest in everything outside of his own condition, and attributes his present unhappy state to acts or events in his past life, of which his present wretchedness is the direct result, and for which he alone is responsible. The physical condition participates in the mental; the heart's action is feeble; the extremities are cold, the appetite diminished, the entire intestinal tract is inactive, and there is usually occipital headache, and insomnia is persistent.

The intensity of melancholia varies from simple melancholia, without delusions and only depression and a doubt of ever getting well, to melancholia agitans, with great restlessness and distressing delusions of personal wickedness, or even that he has committed the unpardonable sin, and melancholia with stupor, where there is extreme mental and physical prostration and the condition is one of apathy, in which the patient has an utter disregard of everything and requires constant care, and in which there is a strong tendency to pass into dementia.

The following condensed history is of a case of more than average severity, which terminated favorably:

Mr. A. B., aged 35, was admitted to our hospital in October, 1895, as a case of melancholia. He had overworked, and, as a contractor, had constructed some buildings at a loss, the worry of which, with the overwork, produced the condition in which he entered the hospital.

He was in poor physical condition, and his weight was only 119 pounds. He had delusions of personal unworthiness, and said that if the inhabitants of Boston knew how vile he was they would stone him to death. He thinks that he has blasphemed God; has hallucinations of hearing, and the voices tell him that he is dreadfully wicked. In appearance he was somewhat emaciated, and his face was almost expressionless, and his finger nails were gnawed close, a habit common in such cases.

He was put to bed, ordered to be fed five times per day and to have a cocoanut oil bath at night, and Ignatia was the medicine given for his mental condition. In two weeks, although his delusions still existed, he was eating well, and had gained seven pounds in weight. By the first of January, 1896, he had gained twenty pounds and was quiet, and his delusions were not noticeable, and the only feeling that remained was that of doubt if he ever would get well. From this time on he made a steady gain. He was permitted to be up and dressed during January, and the first of February was given a parole to go in and out as he wished, and permitted to work two hours a day at carpenter work, that being his trade. He steadily improved under these conditions, so that he was discharged the first of March entirely recovered, weighing 153 pounds.

This is the ordinary course of a case of simple melancholia under treatment in a hospital. His recovery was, perhaps, more rapid than is usually the case in such cases of melancholia.

The form of mental disease which is most apt to be mistaken for melancholia is chronic delusional insanity, or paranoia, as it is now commonly called. This is a chronic disease in which in the earlier stages depression may be found, and as there are more cases of paranoia than there are of melancholia they are quite liable to be confounded. There is, however, one distinctive difference. It seems but a small point, but it is an important one. It is this: The melancholic believes that all his troubles and afflictions result from his own condition or acts, or sins, and that possibly others are going to suffer on his account, while the paranoiac is as certain that he is all right and that others are wicked and he is being persecuted by them, and for that reason he is depressed. He may even attempt suicide to escape from those he believes are conspiring against him to do him an injury, and careful observation of such cases will show that, though the distress is real, it is not as constant as the distress of the person suffering from melancholia.

After a time the paranoiac passes from his depressed condition into a condition in which he is more or less happy, often developing delusions of personal greatness. These are the cases that remain in our hospitals year after year, and constitute, with the cases of secondary dementia, the majority of all cases in insane hospitals.

The following case illustrates paranoia with depression:

Miss A. D., aged 19, was admitted to the hospital April 11, 1895. She was fairly well nourished, weighed 106 pounds, and a history

of having been mentally disturbed for only two months, though subsequently her mother said that she had noticed that she acted queerly for at least a year previous to that time.

She was depressed and suicidal, said that she did not want to live, and she constantly sought means to commit suicide. She evidently had hallucinations of which she could not speak. April 22d, she told her physician that "spirits" told her to kill herself and come to the "spirit land." She was therefore kept under constant observation.

May 4th, she attempted to get into the lake and drown herself; again she secreted a knife under her mattress. Later in the month, patient improved temporarily, and seemed free from her hallucinations, free from depression, and was sent to one of our best wards. The next month there was a relapse, and she became again depressed and disinclined to talk, and had to be removed to a watched ward. This depressed condition continued until January, 1896, when she became free from depression, and began to put on flesh, but she now, in June, 1896, appears to be passing into dementia. Her delusions and hallucinations still exist, but they do not trouble her.

A patient with such a history as this is quite likely to be confounded with a case of melancholia.

Acute mania in hospitals for the insane is the most curable of all mental disease, and its manifestations make it usually not feasible to care for such a case at home.

The history is something as follows:

After a period of a few weeks of depression and sleeplessness, though the depression may be slight, or even absent, the patient passes more or less suddenly into a condition in which all the senses are more active than normal. He talks more rapidly, reasons very quickly, feels stronger than formerly and wants to be doing something all the time, sleeping very little. This is simple mania, and some cases never go beyond this state, but generally in a few days, or even in a few hours, this passes into the condition of acute mania. The rapid speech becomes incoherent from the flow of thoughts and ideas, the motor excitement becomes intense and delusions of wealth and grandeur make their appearance. These make him happy. Sometimes his delusions are painful for a time, and under the influence of painful delusions he will show violence towards those about him. Hallucinations of sight and hearing are common. The physical condition shows the violence of the disease. The mouth

is dry, the tongue furred; there is a secretion of viscid saliva or mucus, which keeps the patient constantly spitting. Thirst and appetite are very much diminished, and exhaustion and death would soon follow if attention to the needs of the patient were neglected. Even in spite of all possible care in a condition called acute delirious mania, the patient sometimes dies.

Acute mania may be terminated by complete recovery in from three to six months, though a patient may remain in the excited period much longer than this and still have a prospect of recovery. If, however, the disease is continued too long, or the excitement has been too intense, organic changes take place in the brain and the patient passes into a condition called chronic mania, and, finally, into dementia.

In most cases the prognosis is very favorable for recovery.

General paralysis of the insane resembles acute mania in the excitement, the delusions of wealth and grandeur; but in this disease these delusions are usually more exaggerated and unreal, and the motor symptoms, the speech, the condition of the pupils and also a previous history of dissipation point to the diagnosis, though sometimes it is impossible to make an accurate diagnosis, and a patient may come in as a case of acute mania and go out as recovered and come in subsequently with the well-marked symptoms of general paralysis, showing that the first attack was only an early stage of the disease.

A patient suffering with paranoia may show great excitement under the influence of strong delusions, but it is not generally as intense and neither does it last so long as maniacal excitement.

The following case shows the character and duration of a case of acute mania which terminated in recovery:

Miss A. E., aged 19 years and in fair physical health, was admitted to the hospital October 18, 1895. Her tongue was coated and dry; she was thirsty, and appetite was fair. The physician's certificate puts, in the patient's own words, her condition at the time of admission: "Last Saturday evening I was lying in bed when the Lord came to me and held out his hand. He said: 'I have come to you to finish My work. I left it half done. I was a man; I want a woman to finish the work."

On admission she was mildly excited, believing that she was here to heal all the patients. She was put to bed in a quiet ward and given a special nurse to help keep her in bed without the use of restraint. For several days the excitement increased until she became very excited and noisy and talked incoherently and almost

constantly, as if replying to hallucinations of hearing. The nurse was unable to keep her in bed and mechanical restraint was used to keep her there. The excitement and restlessness and inclination to talk constantly continued until January, 1896, and a note on the 17th of that month says that "she for several days has been out of restraint, and is beginning to regain her mental health." From this time on she steadily improved, and was discharged recovered on the 7th of April, 1896, and recent information shows that she remains well.

The friends of the patient were unable to account for her sudden breakdown, but after her recovery, she herself said that for two years she had worked at bookkeeping and studied evenings, and did not go to bed until eleven or twelve o'clock; that for three months before her breakdown she felt as tired on rising in the morning as when she went to bed at night. This shows how the mental strain may cause a sudden breakdown in this way.

The proper treatment of curable insanity is of importance to every physician, and consists, first, of the indicated remedy, and second, rest in bed and abundant and frequent feeding. The medical treatment is at the disposal of every physician, but oftentimes the means to secure rest and nourishing diet are not to be secured outside of a hospital.

The use of anodynes is always harmful and is certain to lessen the prospect of recovery.

Early in 1879, Dr. N. Emmons Paine, the first superintendent of the Westborough Insane Hospital, and at that time assistant physician at the Middletown State Hospital, under Dr. Selden H. Talcott, superintendent, modified and adapted the rest treatment for neurasthenia, of Dr. S. Weir Mitchell, of Philadelphia, to the treatment of curable insanity. The results were very gratifying, and its use has been continued in that hospital to the present time.

For some years the benefits of the rest treatment in insanity were limited to Homœopathic hospitals for the insane, but it is now beginning to receive a deserved recognition by others.

Dr. J. M. Mosher, first assistant physician at the St. Lawrence State Hospital, Ogdensburg, N. Y., says in a recent paper upon acute insanity:

"The principles of treatment of these cases were seclusion, rest, abundance of nutritious food and stimulants and tonics. Contrary to the methods of treatment usually advocated, hypnotics were not used."

In a recent article in the *American Medico-Surgical Bulletin*, Dr.

Frederick Peterson, of New York, a recognized authority on nervous and mental diseases, says:

"I know of no better treatment of acute maniacal conditions, for instance, than rest in bed, overfeeding and the hot wet pack."

He further says:

"It is surprising how many cases will do well on this treatment with no drug at all."

The treatment as carried out in the Westborough Insane Hospital consists, first, in keeping the patient in bed. This sometimes necessitates the use of mechanical restraint. If the patient can be kept in bed without such use, it is done, and only the kind and amount of restraint that is necessary to secure the rest is used. Believing that drugs and sedatives are harmful, mechanical restraint is sometimes necessary if the patient's life is to be saved. It is seldom necessary in the acute case to use any mechanical restraint more than two or three weeks.

With the rest in bed, a generous diet of easily digested food is given at frequent intervals. In cases where the patient refuses food, he is fed by the nasal tube. Three or four times a day, a quart of milk at each feeding, with sometimes two eggs and sugar in it, making it a liquid custard, sometimes with Bovinine, is given. The stomach is sometimes unable to tolerate this quantity at first, but usually in less than a week, the patient is able to take this amount of food, and its use is continued until the patient will voluntarily take nourishment.

If a patient comes to the hospital thin and emaciated, a nightly rubbing with Cocoanut oil is given, Cocoanut oil having the advantage of being less objectionable than some other oils.

It is surprising how rapidly a patient will begin to put on flesh after the rubbing with oil. It is not infrequent for a patient to gain a pound or more a day for a month.

When the patient has been in bed for a period varying from six weeks to three months he is permitted to get up for a little while each day, the time being extended until he is up a large part of the day. It is, however, our custom in all such cases to have the patient lie down after eating.

Massage is used occasionally, but not regularly, and the treatment consists chiefly in the rest in bed, overfeeding and the rubbing with oil. The results have been very satisfactory indeed. Comparing with other hospitals in this state, the percentage of recoveries has been much greater, and some of the credit for this increase must

be given to our rest treatment, as it is not used to any extent in the other state insane hospitals.

Discussion.

N. B. Delamater, M.D., Chicago, Ill.: I am very glad to have a paper of this character presented here, for there is nothing that the general practitioner feels the need of so much, I think, as something to help him manage the cases of insanity that come under his care, during the early days of his practice at least, and to be able to say whether it is a transient condition or one that is likely to remain permanent. It seems to me simple, yet explicit, and the many valuable points which he has made in this paper are worthy of the time which the doctor has taken in preparing it. Every man does not have the opportunity to study these cases which the doctor has had, and that is why I am pleased that he has read this very interesting paper here to-day. There are many different methods to be considered in the treatment of these cases. The general practitioner who may be more experienced in general work than we, must necessarily be very much perplexed when he comes in contact with cases like these.

The point which I want to call particular attention to is the third factor in telling whether these cases are curable or not, that is the cause. The cause may have been some unhappy occurrence, family disturbance, etc., but it is exceedingly difficult in some cases to find it out. If we can learn the exciting cause which produces the unbalancing it will help us very much in making our prognosis. The doctor spoke of the danger of neglect, and I want to second what he said with all the power that is within me. Many cases are rendered incurable because they do not have the proper treatment in the start. The physician is not always to blame, but if he cannot have all the means at hand which are necessary in the treatment of the case, and at the same time the confidence and co-operation of the family, he had better throw it up to some one else.

You have in so many of these cases a defective nutrition of the brain, and you must give this your careful attention. In treating acute mania in private practice outside of a hospital, the first thing to do is to secure rest and quiet for the patient, and if you cannot secure that, don't treat the patient. The next thing to secure is proper nurses; not nurses who will sit down and buzz, buzz, buzz all the time by the patient's side, but nurses who will let the patient be quiet and be quiet themselves.

Do not depend on the nurses unless you are absolutely sure that they will keep a record of the temperature. Not long ago I saw a case which I thought was acute mania, because the temperature was normal all the time, according to the nurse, but the third day when I went to see it I put my finger on the pulse, and found it 130; then I took the temperature, and found it 105.5. I was very much put out because I had not taken the pulse and temperature myself, and not depended on the nurse. The next thing to do is to turn

the family out, and not allow any one around except strangers, and nothing in the room which they can associate with their hallucinations. Then comes the selection of the remedy. I agree with him in what he says of hypnotics, for you will find many cases where hypnotics will be necessary, but you will find many cases where hypnotics will have to be continued, and when you do, you have got a case which must go away from home and be put into an institution. I am very much pleased with the paper.

O. R. LONG, M.D., Ionia, Mich.: I wish to say that the classification and curable forms as given by the doctor would prove somewhat misleading to many not engaged in the specialty. Stuporous insanity is a form recognized by most recent authorities, and while the doctor probably includes it in the division melancholia, I think it should have a place as a distinct form of insanity. I shall not enter into any details in regard to the differentiation of this particular form of mental disease, as most text-books give it fully. Stuporous insanity is one of the forms most readily curable, therefore should be added to the curable forms given by the doctor.

I would extend the list of curable forms. I think the delusions possessed by many paranoiacs can be corrected, though the doctor may have included more in his statement than I have credited him with.

In regard to treatment, the gentleman who preceded me in this discussion stated that "institutions are sometimes preferable to homes." In my opinion they are almost always preferable. The stigma that at one time attached to one who required segregation in an institution for the insane is no longer connected with them. Home treatment is objectionable in a majority of instances for the reason, to allay the anxiety of friends, narcotics are resorted to to an extent to do positive injury to the patient. Suicidal cases can be more safely cared for in an institution devoted to the care of this class of cases than at their homes, where they will often deceive their friends by their apparent improved condition, and the relaxed vigilance enables them to accomplish their purpose.

I am of the opinion that the adoption of "rest treatment," in the sense used by the doctor, is not applicable to all cases.

G. S. ADAMS, M.D., Westborough, Mass.: In reference to the question as to amount of rest required in melancholia patients. We put the patients to bed and keep them there for three weeks; but if they are taking abundance of nourishment we can let them sit up two or three hours each day. In many cases, however, where the patient is poorly nourished, absolute rest for six weeks is required. If they are depressed from continuous rest, we keep letting them up for a little while at a time, but if they seem tired from being up too long, we don't let them up so long next time. Sometimes we let them up too fast, and they go back, and we have to put them to bed again. If they are gaining flesh they will get along all right. Concerning Dr. Long's remarks, I entirely agree with him. I included a stupor-

ous insanity in the forms of melancholia which I spoke of. Regarding the treatment of acute mania at home, which was called up by Dr. Delamater. You sometimes can secure good treatment at home. I had a case not long ago where they wished to have the patient treated at home. I found the conditions favorable, and put the patient to bed. She continued in this condition for two months without getting well. The mental strain was so great on the family that I sent the patient to the hospital, and in two weeks she was well. In most cases of mania, without they are people of wealth, they are not able to have the patient cared for at home. In melancholia patients, if caution against suicide is taken, they can get along at home.

Traumatic Neurasthenia.

By E. R. MacIntyer, M.D., Chicago, Ill.

I employ this term in the absence of a better to call attention to conditions I have sometimes seen, and in which the cause was some kind of a shock. I use the term neurasthenia to express only what it literally means, a lack of nerve power, and in this sense there is no reason why it may not follow as a result of cerebral meningitis or hyperæmia, or both, depending on shock, and this shock without sufficient pathological lesion of nerve tissue to cause destruction of either sensory, motor or trophic cells.

It does not necessarily follow that this shock is from an external cause. Kirchhoff speaks of a condition he terms psychical trauma, the result of some mental shock, which may be followed by different neuroses, resulting in psychological changes. I have seen a few such cases. Therefore I feel justified in relating the following case as one of traumatic neurasthenia, whether there ever was external mechanical injury or not.

About November, 1889, a young man of 21, belonging to an excellent family, and without hereditary predisposition to either nerve or lung disease, living in a small city, surrounded by luxury, brought the lady to whom he was engaged to Chicago to the theatre. While there he was taken suddenly ill with what was diagnosed as la grippe. This was followed by a very severe attack of pneumonia which lasted three months. He was taken to Hot Springs, and when convalescing was taken back home. About this time, his mother being suddenly called away by the death of her father, he was left in the house with his father and a servant. The father slept in an upper room while the son was on the ground floor. He arose one morning and, as he passed his son's room, heard him moan, and entered to find the room in great disorder, the patient on the floor unconscious, with a towel securely tied over his mouth, the knot at back of neck. He remained unconscious for ten days, constantly fighting robbers and talking of the unfairness of two well men attacking one sick one. There were no marks of violence other than the towel, which was so securely fastened as to render its

removal a very difficult matter. When consciousness returned he said that two burglars entered his room and struck him down with a sand-bag. There never was any paralysis or localized symptoms of external injury. The family physician was called, and after he had done the best he could, counsel was called.. Following this the rounds of physicians began. Specialists were consulted, surgical specialists, nerve specialists, orificial specialists, and perhaps gynæcological specialists, until he went the rounds of seventeen doctors, up to the present writing, and still he lives to tell the story. To one nerve specialist, soon after the injury, he admitted that he was not struck at all; that he disarranged the room himself, and no one was in the room. I never could get him to admit this, though it may be true. If so, it is difficult to conceive how he got that towel over his mouth, and so securely tied behind his neck, in his already weakened condition. He had the symptoms of meningitis, and was blind for several weeks, though careful testing proved that he could see, and he was a masturbator. He said he had quarreled with the young lady.

The orificial specialist, to whom he went because he had an injury to the head, proceeded to an operation for that injury; but unfortunately, because there were no localized symptoms to guide him, he made a mistake in locating his trephining and did it in the rectum. It does not appear whether he discovered brain lesion by this operation or not. But it is true that from that time complete atony of the rectum and gradual aggravation of all the symptoms have been present, until September 10, 1895, he was brought to me on a stretcher, utterly unable to walk or help himself, and presenting a picture of rapid dissolution. One peculiarity which should be kept in mind was the great desire for sympathy, and the extremely bad results from receiving it. I learned some of his history from his father before he brought him to me, and told him I would take him if I could have absolute control of him, and that his mother could only see him when I thought best. She saw him but twice during the nine months he was with me, and then but for a few minutes. When he came his stomach would not retain anything, especially if he did not wish to take it. This we soon got under control, and he made quite a satisfactory progress, except his lower limbs, which were atrophied from lack of use. His mind improved and he ceased to tell us that he was going to die soon. He is now at home, but I still have him under observation.

I do not call attention to this case as being either unique or very common. It is neither. But because it is a case in which mistakes are so easily made, even by the most expert, and because it has an interest for the general practitioner. Besides this his rectum and urethra were operated on for what appeared to be a traumatic meningitis.

The orificial theory is at once the best and the worst fad that has ever been promulgated by the medical profession. Its judicious use is one of the best operations, and its abuse is little short of criminal. I doubt not there was a diseased condition of this young man's rectum, but the history of the case would point to it as an effect and not a cause of his sickness. And the subsequent history of the case proved beyond a doubt that the operation did him untold injury.

The time is speedily coming when the best surgeon will be he who knows *when not to operate*, when physicians will not so frequently mistake effect for cause. Medical science is in a stage of development. Like the butterfly, but few would recognize one medical era as belonging to the same science as its predecessor. It is now in the caterpillar stage, but is rapidly being metamorphosed.

Some of us who are not yet old can remember when a physician who did not possess an *artificial* apparatus for generating Sulphuretted hydrogen and pumping it into the colon, was not up to date. I must confess I could never see the necessity of an apparatus to get that particular gas into that particular part of our anatomy.

That fad was of short life, being replaced by injecting the expressed juice of sheep's testicles into the old fellows who had lost their aphrodisiac propensities. This did not seem to me to be necessary to the happiness or well-being of most men. About the time this fad was at its zenith another cause and cure for "all the ills humanity is heir to," was discovered, and the medical world began gazing through a rectal speculum and shouting lustly, "Eureka! this is the fountain of perpetual youth, here is the source of all our ills." But it was not so.

When this failed to cure diphtheria, some one evolved the idea of injecting into the veins of every child or man who had soreness of the throat from whatever cause or of whatever nature, serum from the blood of a superannuated horse, taken while suffering from a poison that had been injected. This is antitoxin (?). This fad is at present having its inning.

Of the number of lives that have already been sacrificed to it we shall never know. Of some we do know.

This is the history of the present medical science, and I shall not be surprised if, before it reaches the beauties of a fully-developed butterfly, some one shall gravely recommend the injection of serum from the veins of a sickly donkey for the restoration of the mental health of demented doctors.

But, seriously, all these fads have had their uses, if they serve no other purpose than to call attention to how little we *truly know* about the ultimate ætiology, pathology and cure of disease, and to direct us toward a distinction between cause and effect, so that we will not so frequently mistake the one for the other.

Discussion.

N. B. Delamater, M.D., Chicago, Ill.: In the first place, the young man never was unconscious. He feigned it. He had a fight with his girl and he tried to frighten her. He pretended he was blind and yet he could see everything. He never was blind in his life. He seemed paralyzed, but he was never paralyzed. When the doctor told him he must go to the hospital, he found himself able to walk. The doctor must either have the patient taken entirely away from home at once, or he will not save his reputation. If you can get it into your minds that this is true hysteria, this paper will have done some good.

C. T. Hood, M.D., Chicago, Ill.: I have wasted a great deal of brain tissue in trying to find out something about neurasthenia. I wish that Dr. MacIntyer would tell us something about it. I was disappointed in the last part of his paper. Where there is so much smoke there should be some flame.

Dr. MacIntyer: If the paper which I have presented does nothing more than excite a little discussion, I am satisfied. Is it not a fact that we have run to fads so much that we have done injury to our cases? Is it not true that in undertaking the killing of a tree we often cut off the branches instead of getting down to the roots?

A Few Stramonium Cases.

By Selden H. Talcott, A.M., M.D., Ph.D., Middletown, N. Y.

Stramonium is a remedy which occupies a unique but interesting position in therapeutics. It has generally been classified as a "powerful narcotic agent." It was formerly used for the alleviation of pain, and some of the famous liniments and ointments of medical commerce were largely saturated with the juices of the Stramonium plant.

While its general action tends to the production of insensibility, it does not work in a soporific or sleep-producing manner. The relief of pain, without the production of sleep, but by causing an insensibility of the nerves, is one of the primary effects of Stramonium. The secondary effects appear when this temporary insensibility passes away, and when, by a process of reaction, hyperæsthesia is established throughout the great nerve centres, and, as a natural consequence, there is a marvellous hyper-stimulation of all the mental powers, especially that of the imagination.

The patient who is just released from the primal insensibility caused by Stramonium, and stirred by the inevitable reaction, is in the condition of a person who suddenly wakens from a horrible and devastating dream. He is in a condition of abject fear. All the energies of the mind seem bent upon conjuring up the most terrifying images of devouring monsters, and these vivid creatures of the imagination seem, to the frightened victim, about to crush, and destroy, and tear asunder the minutest fibres of the physical temple.

The most appalling visions of dragon, and gorgon, and apocryphal wild beast are born within the brain of the victim or prover of Stramonium. Under the influence of an excited imagination (the effects upon the cerebrum of this peculiar and overpowering drug) the prover sees strange animals coming from all corners of the room. He sees trains of bed-bugs, and processions of beetles, and hosts of cockroaches. He sees ants and bugs, and rats and mice, and frightful figures of many direful shapes and forms. He sees his own executioner. He sees lizards, and worms, and snakes. He hears voices of men talking in foreign tongues. He feels that a dog is biting and tearing the flesh from his chest. These hallucinations

of sight and hearing and feeling all impel the victim to a condition of profound, abject, cowardly and retreating fear. Similar mental states are observed in acute mania, in delirium tremens, and in acute delirious mania. In medical practice such states and symptoms call for the use of Stramonium. Whenever we find intense physical and mental excitement, coupled with abject and profound fear—a fear that is demonstrated by the most positive expressions of horror—then we may administer Stramonium with confidence in its ability to effect relief. A peculiar numbness, or insensibility, often precedes the maniacal outbreak.

Belladonna is intensely excitable, and periodically pugilistic. Hyoscyamus has a jolly delirium, with tendencies to obscene abandon. Veratrum alb. has violent mania and religious aspirations or religious apprehensions, coupled with a condition of physical collapse. Stramonium has all the physical unrest of the remedies which we have named, and likewise all the maniacal excitement of these three drugs. In addition, Stramonium has those sensations and fears which must have filled and overpowered the heart and soul of Prometheus, when he was bound upon the rock, where for thirty years he suffered those physical tortures which were relentlessly administered by the beak and claws of the devouring vulture which fed upon his liver.

We will now present a few cases from the records of the Middletown State Homœopathic Hospital, showing the symptoms and mental states of some of our patients to whom Stramonium was administered. The results are also stated. These cases illustrate the fact that Stramonium very quickly relieves patients suffering with numbness and insensibility, or with great maniacal excitement; to these are added abject and cowardly fear, and vivid hallucinations of sight, hearing and feeling. The hallucinations usually relate to animals of a fear-producing variety. Sometimes fright is induced by visions of very bright objects, such as sparkling water, or sunlight, or stars.

Case No. 1 (No. in case-book, 4573).—Female; admitted December 23, 1895; age, 44; married; number of children, 5; living, 5; nativity, United States; occupation, none; education, collegiate; habits, temperate; condition, exalted; present physical condition, fair; pupils, dilated; bowels, normal; appetite, good; weight, 145; number of attack, second; age at first attack, 37; duration of attack, two weeks; remote cause, predisposition; exciting cause, unknown; diagnosis, mania; stage, acute.

December 28, 1895.—Very excited; hallucinations of sight and hearing which frightened her terribly; face flushed; restless; constantly in motion; very noisy; takes plenty of milk, but no solid food; spits a great deal. Stramonium 3x hourly. Slept five hours; very noisy the latter part of the night. 29th.—Says the hallucinations are less vivid; slept three hours; quite noisy. Says she wants to go home, as she is frightened here. Face flushed; skin moist. Sees all kinds of things in the room; "tall man, thin woman, two faces over the door." Can see these horrible faces during the day; complains of steady pain across the lower part of the back, time for menses to appear. 30th.—Restless, noisy, and awake every hour. Temperature, 99. 31st.—Slept none. Was given Passiflora, and this was followed by Stramonium. January 1st.—Slept none; noisy at times; took nourishment during the night. Temperature, 100. This condition continued until January 5th, when she began to get quieter; sleeping better, and taking plenty of food (liquid). 6th.—Unusually quiet, and taking plenty of milk. 9th.—Quiet and slept well. 10th.—Bright and quiet. 18th.—Sleeping well; out of protection sheet; thinks she sleeps better; improved. 21st.—Crying, and unusually excited this P.M. 23d.—Slept well last night; is steadily improving; is put in protection sheet at night; says she likes it; it keeps her warm. 26th.—Says she feels better than she ever did in her life. Patient continued to improve from this time on, and left the hospital recovered May 4, 1896.

No. 2 (No. in case-book, 3141).—Male; admitted April 1, 1891; age, 31; single; occupation, clerk; education, common school; habits, intemperate; heredity, none; father and mother first cousins; present physical condition, feeble; temperature, 99⅘; remote cause, predisposition; exciting cause, intemperance; diagnosis, mania acute, afterwards delirious. April 24th.—Very nervous; pupils dilated; can hardly hold still at times; twitching of muscles all over; rambling and unnatural in conversation; acts as if bordering on delirium tremens; great fearfulness, as if afraid of being injured by imaginary foes; takes his nourishment fairly well; vomited last night. Was given Stramonium 3x every half-hour. 25th.—Yesterday afternoon became violent. Saw rats and insects; became afraid; jumped out of bed, and curled himself up in a corner of the room to get away from snakes, etc. Thinks the house is falling down on him. Was given Aconite 1st hourly, followed by Stramonium 1st hourly. Very restless and noisy during the night;

slept none; violent this morning; at times becomes very scared and apprehensive; appears to see horrible things about him; calls out in terror; perspires freely; talks irrationally and incoherently this morning; face flushed; pupils dilated; very tremulous. Stramonium continued in 3d decimal dilution. 27th.—Rational this morning; temperature, 99½; pulse, 100; respiration, 26; took liquid nourishment, lying quietly in bed; face flushed; continued to improve from this time on. Discharged recovered October 16, 1891.

No. 3 (No. in case-book, 4415).—Male; admitted May 22, 1895; age, 11; single; nativity, Germany; occupation, none; education, common school; habits, temperate; present physical condition, fair; weight, 63; number of attack, first; age at first attack, 2 years; duration of attack, 9 years; accompanying disease, epilepsy; remote cause, predisposition; exciting cause, meningitis; diagnosis, epilepsy.

It is said that this boy will have a fit at the sight of a stream of water. He will not speak or give any sign that he understands what is said to him; seems afraid of everything, and inclined to get away from people. Stramonium 1st every two hours. 25th.—Brighter; does not eat well. 28th.—Answers all questions by giving his name. 31st.—Masturbates constantly, having many fits. July 3d.—Restless, walking about constantly. September.—Every time he hears any sharp or sudden sound has a fit; was given Belladonna. October.—Never speaks; constantly playing with his penis. 17th.—The slightest sudden noise scares him into convulsions; had Stramonium 3d. Nov. 28th.—Doing better; growing fleshy; not masturbating; has not had a fit for six weeks. Dec. 18th.—Very much brighter; talks in German; growing fat and strong; no fits. 28th.—Gradually growing stronger; no fits. January, 1896.—Bright and lively. This case had Stram., Bell. and Podo. After taking Stramonium a second time the fits ceased, and he has had no recurrence of convulsions during the past nine months.

No. 4 (No. in case-book, 4483).—Female; admitted August 13, 1895; age, 44; single; nativity, United States; occupation, none; education, common school; habits, temperate; heredity, uncle and cousin; present physical condition, feeble; pupils, dilated; bowels, constipated; appetite, poor; weight, 103; number of admission here, third; other hospitals, two; age at first attack, 34; duration of attack, two months; remote cause, predisposition; exciting cause, worry and overstudy; diagnosis, mania recurrent.

Patient has been home on a parole. Returned April 10, 1896. Says her head feels numb; sees stars all the time; sensation of sailing around; must keep her eyes closed; sees stars either with eyes open or closed; seems coherent and fairly well composed; does not keep her hands constantly in motion, as she has always done when here before; winks much; not so haughty. 13th.—Says she slept better, but that her head feels just as bad as ever; is numb at times, and at times it throbs and beats; is afraid of everything. Stramonium 3x every two hours. 14th.—Says she feels better to-day; does not see the stars or bright lights as she did; head does not ache; slept six hours last night; eating better. 16th.—Continues to improve; says she feels perfectly natural and well again. Was given Sac. lac. three times a day. 30th.—She again complained that her head felt weak and bad. Was given Stramonium 3x every two hours one day. May 1.—Head feels much better to-day; feeling better in every way. Paroled June 3, 1896, very much improved.

No. 5 (No. in case-book, 2763).—Male; admitted March 12, 1890; age 42; married; number of children, 5; nativity, United States; occupation, cutter; tendencies, threatened homicide; heredity, maternal; present physical condition, feeble; pulse, 100; temperature, 99⅘; weight, 140; number of attack, first; duration of attack, two and one-half months; remote cause, physical disease; exciting cause, morphine habit; diagnosis, melancholia; stage, acute delirious.

March 16, 1890.—Pupils widely dilated; eyes inflamed; hallucinations of sight; mistakes the identity of persons; talking disconnectedly and irrationally, but will occasionally answer sensibly; looks for different things in the bed-clothes; terribly apprehensive and fearful of injury. Stramonium 1st every two hours; improved steadily after taking Stramonium; all unnatural symptoms subsided, and he was discharged recovered May 15, 1890.

No. 6 (No. in case-book, 3594).—Male; admitted August 25, 1892; age, 37; single; nativity, United States; occupation, farmer; education, common school; habits, intemperate; present physical condition, feeble; pulse, 100; tongue, yellow; temperature, 92⅘; bowels, constipated; appetite, good; weight, 135; gait, unsteady; heart, irritable; skin, sallow; number of admission here, first; age at first attack, 37: duration of attack, three weeks; remote cause, predisposition; exciting cause, intemperance; diagnosis, mania; stage, acute.

Has threatened to kill those who take care of him; has done so repeatedly, and when not under the influence of stimulants; wan-

ders about the house at night; imagines that robbers are in the house; eats ravenously to the extent of gluttony; he eats a dozen cans of corn or peas raw at a time; his symptoms are not the result of alcoholism, as they exist when he has not been drinking.

On admission, depressed, ugly; does not sleep nights; sees strange things; sees "niggers and strange men trying to get into the house." All symptoms are worse at night; soiled his bed at night; said it would have to be proven, as he was in so many beds during the night; delusions; thinks he sees women in the ward; irrational; they all cry "Down on C., shoot C., kill him, shoot him." Hears voices from the radiator; says he feels scared at times; does not know why. Stramonium 1st every two hours was administered and all the symptoms in this case were quickly relieved. Under the effects of Stramonium this patient made a satisfactory and happy recovery, with no return of his disorder.

No. 7 (No. in case-book, 4119).—Male; admitted April 20, 1894; age, 26; single; nativity, United States; occupation, stone mason; education, common school; habits, temperate; fair physical condition; number of admission here, first; number of attack, first; age at first attack, 26 years; duration of attack, three months; remote cause, predisposition; exciting cause, ill-health; diagnosis, mania; stage, acute.

June 4, 1894.—Says he sees lice; is very violent; has to have mitts on; face, red, but pupils not very dilated; expression of fear on his face constantly; was given Stramonium 3d every two hours. 5th.—Has not seen lice since he began taking Stramonium; is more quiet, and sleeping this morning. 23d.—Very thirsty; wants water every fifteen minutes. Stramonium 3d every two hours. July 14th. —Wants to chew everything; howls like a dog; had Cantharis every two hours. 23d.—Sleeps from three to seven hours nightly; appears to be gradually growing more quiet; at times is violent; continues to improve mentally, but has several intercurrent remedies for colds, etc. Discharged recovered, June 20, 1895.

No. 8 (No. in case-book, 4158).—Male; admitted June 11, 1894; age, 55; married; number of children, five; nativity, U. S.; occupation, bayman; habits, temperate; attempted suicide; present physical condition, fair; age at first attack, 55; duration of attack, one month; accompanying disease, rectal ulcer; remote cause, predisposition; exciting cause, worry and sickness; diagnosis, melancholia; stage, acute.

June 18, 1894.—Very restless and noisy; calls for water, then yells

when it is brought that, "It will set the world on fire;" appears to be afraid of it; mouth and tongue dry; very apprehensive. Stramonium 3d hourly. 19th.—Restless; at times gives utterance to many delusions, but when spoken to will say nothing. 26th.—Is slowly improving; has but little to say. Continued to improve steadily, and discharged recovered October 24, 1894. This patient has remained well since leaving the hospital.

In the treatment of mental diseases, so-called, we find that the more carefully and accurately the Homœopathic remedy is applied according to the "totality of symptoms," the more surely the patient is relieved of both mental distress and physical degeneration. At the same time, we cannot rely wholly upon the effects of any remedy. The causes of mental disorder must be removed; the sanitary conditions which surround the patient must be the best that are known to modern science. Mental and spiritual hygiene must be applied with scrupulous care. The means and measures for rebuilding the physical forces by the use of suitable diet, given under proper conditions, must be attended to with religious perseverance and fidelity. As each remedy should be given according to the "totality of symptoms," so, in the reconstruction of a degenerate human system, the totality of advantages and opportunities must be strenuously monopolized.

In the administration of drugs for the cure of mental and nervous disorders, we should exercise profound patience and calmly await the effects of a selected remedy without introducing new and unnecessary drugs. Sometimes we are in such a horrible and hustling hurry to accomplish the desired end that we do not wait to secure the best and happiest results which might follow the persistent use of the indicated remedy.

Pelvic Neuritis as it Appears in Women, with Special Reference to its Ætiology.

By William O. McDonald, M.D., New York, N. Y.

Inasmuch as this affection is without a history, being, as far as I know, an undescribed disease, I will, I trust, be excused if I go somewhat into elementary matters in the beginning.

Although I am addressing those who have made a special study of the nervous system, yet I will take the liberty of going over the anatomy of the structures implicated by way of a preliminary to what I have to advance later.

Concerning the nerves of the pelvis, Harrison Allen says that the sacral plexus is derived from the anterior branches of the last lumbar and the four upper sacral nerves. From the plexus are given off the two gluteal, the muscular, the cutaneous, the small sciatic, the great sciatic and the pudic. Of these the small sciatic sends a branch, called the pudendal, to the external genital organs, while the pudic, which is distributed to the more accessible parts of the genital canal and pelvis, is the trunk in which we are particularly interested. It is true that the balance of the sacral plexus can correctly be called pelvic, yet so much of it is extra-pelvic in its area of distribution that I do not feel called upon to consider it. Allen goes on to say that the pudic nerve arises from the second, third, fourth, and at times from the fifth, sacral, forming a plexiform arrangement with twigs from the sympathetic, then passing along the outer wall of the ischio-rectal fossa to leave the pelvis by the great sciatic notch, re-entering through the lesser sciatic notch into, Savage states, the posterior perineal space, and giving off branches as follows: The inferior hæmorrhoidal to the sphincter and rectum, the anterior and posterior superficial branches, the anastomotic branch to the lesser sciatic, the nerve then running along the inner side of the tubes and ramus of the ischium to be lost in forming a nervous sheath for the clitoris.

The area of the pudic nerve may be thus defined as extending from the vicinity of the second, third and fourth anterior sacral foramina along the pelvic wall to the great sciatic notch, over the external surface of the ischiatic spine from the lesser sciatic notch

inside the pelvis, on the inner surface of the tubes and ramus of the ischium to the clitoris.

The text-books unite in saying that the vagina, uterus, tubes, ovaries and adjacent tissues which enter into the formation of the roof of the pelvis are supplied by the sympathetic system of nerves through the medium of the hypogastric plexuses to which, according to Gowan, twigs are sent by all the lumbar nerves and by the four upper sacral also.

There are some other nerves which deserve mention; derived from the lumbar are the ilio-hypogastric, the internal branch of which goes to the hypogastric region, the ilio-inguinal, a branch of which goes to the groin and greater labium, the genito-crural, which sends a branch to almost the same area. The other branches of the lumbar plexus which go to the inferior extremity are in the false pelvis and only in passage.

Neuritis in general, quoting Sinkler, results from injuries, as wounds and contusions, from compression of trunks, from external sources or from tumors, growths and cicatrices. At times inflammation will extend from neighboring tissues, as in arthritis. Cold causes many cases, also the gouty and rheumatic poisons. It is at times due to the cachexias, as syphilis, cancer, etc. Alcohol is a common cause of the disease.

An injury or inflammation of a peripheral nerve may give rise to an ascending or migratory form which will extend high in the plexus to the roots, involving, finally, in this way, other nerves.

Neuritis is, like peritonitis, a secondary or associated disease, in support of this Sinkler specifies the following varieties: The alcoholic, those due to Carbonic oxide, to Lead, to Arsenic; that of atheroma, to intestinal parasites; the endemic forms, as the beriberi, said by one author to be owing to Carbonic acid intoxication, the peripheral form of old age, the malarial, the diphtheritic, the typhoid, the syphilitic, the tubercular, the rheumatic, the gouty, the septicæmic, the diabetic, the leprous, and even this does not exhaust the list, as it does not include the cancerous or the leucocythæmic.

Just to what extent these facts in regard to neuritis in general apply to the pelvic form I am not able to indicate, but I propose to submit an analysis of several cases which have recently come to my notice as a contribution to the study of the ætiology of the disease as it affects the nerves of the pelvis.

My attention was first called to the malady by Prof. J. T. O'Con-

nor, as explaining certain symptoms which I had met with rather frequently in making examinations of women. I have said that the disease is, as far as I can find, without literature. I find no mention made of it in the *Index Medicus* from 1890 to 1895 inclusive. It did not appear in the indices of some twenty-eight special treatises upon gynæcology and upon diseases of the nervous system which I examined. I am not aware that it has been the subject-matter of any book, pamphlet or journal article. Consequently, I would appear to have a virgin field to work in thus presenting it.

But if pelvic neuritis as it appears to the gynæcologist has been ignored, what is styled "puerperal neuritis" has been recognized and dwelt upon by quite a number of writers. André Tuilant published a monograph in 1891 of some sixty-seven pages upon "neurito puerperale," and his biographical index furnishes thirty-seven references to writers who have referred to the subject during the period extending from 1861 to 1890.

Tuilant, to whose work I will have occasion again to refer, separates the neuritis of pregnancy, due, in his opinion, to the same form of infection which causes the uncontrollable vomiting, from the neuritis of parturition, which he attributes to the febrile complications of labor.

As the disease has not thus far been the subject of description, it will, perhaps, be appropriate for me to specify the symptoms which in my opinion indicate its existence.

In the first place inflammation may affect the ilio-hypogastric, the ilio-inguinal and the genito-crural nerves. It must be recognized by sharp study of the locations and limitations of pain and tenderness in the tissues to which they are distributed. I do not propose to go into the consideration of them.

Again, while the sacral plexus is pelvic, its trunks are so largely extra-pelvic, and have been so thoroughly studied in their diseased manifestations under the caption of "Sciatica," that I will ignore the plexus with the exception of the pudic.

Following Professor O'Connor's lead in this, I take the great characteristic of pelvic neuritis to be tenderness located in the trunk and in its area of distribution. In a pronounced case the nerves of the vagina, uterus and roof of the pelvis will be implicated, and can be, I think, included under the same caption.

The anatomical extent of the nerve has already been indicated. In making a digital pelvic examination, having ascertained that the inner sides of the pelvic walls are tender, the lesser mark to be

sought is the tuberosity of the ischium, locating this with the thumb; then sweep the finger backwards, making pressure over the sciatic notches, and thence up on the sides of the anterior surface of the sacrum, again seeking the tuber, bring the finger forwards upon its inner side, over the surface of the ramus to the vicinity of the clitoris. This sweep of the examining finger will comprise the extent of the nerve trunks as such; the area of distribution is wider to the tissues and soft parts in the vicinity.

Whether the spontaneous pains of pelvic neuritis are sufficiently characteristic to permit of a diagnosis I do not know. I am inclined to think that there is food for study in this direction.

I am aware that the recital of cases is in general out of place in an article to be presented to the Institute, but inasmuch as the entire value of my presentation is contained in these cases, I am compelled to inflict them.

Four of my cases are childless women; the other four have had from one to three children each. I will present the barren class first.

Case I.—N. C.; 20 years old; unmarried; her menstruation is normal, excepting that for the past two or three years she has had pain during the first and last days of the flow.

She has anteflexion of the body and cervix, with some retroversion and with undue mobility of the uterus.

She has tenderness in the areas of both pudic nerves, extending from the sacrum forward to the rami of the ischiatic bones, more pronounced upon the left side; but there is no sciatica.

The vaginal aperture is rather small. She probably has never copulated, certainly has never been pregnant; presents no history of accident, but she states that she has been examined repeatedly, that the uterus has been lifted and treated by means of tampons. I take it that the retroversion, the undue mobility of the uterus, together with the lifting of the organ and the use of tampons, after a rough, rude fashion perhaps, can be held to be responsible directly for this sharply circumscribed neuritis. This is the only case of an unmarried woman with pelvic neuritis.

Case II.—S.; 34 years old; married; never pregnant; had sciatica ten years ago, and still feels it at times; some dysmenorrhœa.

She has descent of the uterus in the second stage; that is, with the uterus low and in the axis of the vagina.

There is moderate tenderness in the course of the trunks of both pudic nerves.

She presents many symptoms in the way of pains, some of which are due to the displacement and some, in my opinion, to the neuritis.

I would only present the association of neuritis with uterine displacement in this case, as the date of the sciatica is too remote for me to make any attempt at determining which was primary in the order of time.

CASE III.—E. N. S.; 37 years old; married; never pregnant menstruation normal, excepting some dysmenorrhœa during the past three months.

After rather a harsh course of treatment by tampons, she was seized with a right pelvic peritonitis which confined her to bed for seven weeks.

She has the uterus fixed in the right side of the pelvis, right latero-version.

She presents pronounced tenderness in the right pudic nerve and the right sciatic as well.

She has spontaneous pain in the areas belonging to both these nerves.

Re-examination one year later verified the continued existence of the conditions as given above.

Apparently harsh mechanical treatment with tampons and the like excited a pelvic peritoneal inflammation which extended to the right sacral plexus.

CASE IV.—H. J. P.; 27 years old; married six years; one miscarriage at six weeks during the first year. Recovered perfect health.

Being sterile, she was subjected to dilatation and curetting. She was evidently infected, as she had fever daily for six months, resulting in an attack of "pelvic cellulitis," so-called, confining her to bed for eight weeks.

She has salpingitis and peritonitis, left side, with marked tenderness in the area of the pudic nerves, more pronounced upon the left side. The symptoms of peritonitis are getting better, the pains of the neuritis are getting worse.

Salpingitis and peritonitis from operative infection, and the extension of the inflammation to the sacral plexuses, and notably to the pudic nerves is my reading of this case.

Now, it is to be noted that this class all present histories indicating that the internal genital organs have been abused.

Case I., uterine displacement and undue mobility entail a certain amount of injury through strain and the treatment, lifting and tamponing, in such is liable to do mechanical harm to the tissues by both stretching and pressure.

Case II. presented the association of uterine displacement with neuritis of the pelvic nerves.

Case III., the relation between pelvic injury and pelvic inflammatory reaction is more definite. Tamponing carried out after such fashion as to inflict severe pain is followed by pelvic peritonitis. As sequences, we have the uterus firmly fixed to the right pelvic wall, and pronounced inflammation of the right sacral plexus, affecting particularly the great sciatic and the pudic.

Case IV., a woman in perfect health is infected during a certain surgical procedure, recovering after an illness lasting eight months. She presented a slowly-vanishing salpingitis and peritonitis of the left side, and a constantly increasing pelvic neuritis affecting both sides.

CASE V.—C. D.; married; 30 years old; one child six years old; one miscarriage three months ago; dysmenorrhœa severe before childbirth; suffers from pelvic examinations for twenty-four to forty-eight hours; leucorrhœa constant; many pains, aggravated by menstruation; has bilateral laceration of the cervix, which joins the body at a sharp angle, with eversion; tenderness in the area of both pudic nerves, more pronounced in the left side; walls of vagina, cervix and body of the uterus tender also. Her symptoms, pain, etc., date from the birth of her child; the labor was long—thirty hours—and she was sick for three weeks after it.

While I believe that pelvic neuritis may originate directly from the damage caused during labor, yet I am inclined to think that in many cases it is an indirect sequence, being excited and maintained rather by the lacerations of the cervix, etc., than by the traumatisms themselves.

CASE VI.—J. J. J.; married; 44 years old: had three children and one stillbirth in course of four years, the last birth fourteen years ago.

Menstruation normal in time and duration; pain before, with and after flow, takes half of her time; whites scanty and irritating.

For past fifteen years burning pains in lower end of the abdomen, groins and inguinal region, also in hips and anterior surfaces of thighs.

Tender all over the anterior parts of pelvic end of the body inside and out—vulva, vagina, cervix and uterus, area of pudic nerves, but not in the sciatics.

External genitals smooth, wasted, very sensitive, hyperæsthesia of the genital and pelvic organs, bilateral laceration of cervix.

This anterior pelvic neuritis dates from the four years during which she bore four children, and is due, in my opinion, to damage done in childbirth.

This woman for years past has been made sick for from three to five days by pelvic examinations, and for almost as long by copulation.

CASE VII.—B.; 38 years old; married; had two children, aged now 8 and 10 years.

Menstruation normal; some leucorrhœa; pain not affected by menstruation; in the right flank deep; and inside the wing of ilium the pain is burning; comes and goes; aggravated by bending body to the right. No physical signs of renal, appendicular, Fallopian or ovarian disease.

Cervix split bilaterally; body upright; pronounced tenderness inside pelvis in the area of the right pudic nerve.

Here we have the association of right pudic neuritis with laceration of the cervix, and both dating from childbirth—the fact why the right pudic nerve only is affected I am unable to conjecture.

Pain deep in right flank and inside the wing of the ilium is suggestive of implication of the branches of the first and second lumbar nerves, the ilio-inguinal, ilio-hypogastric and the external cutaneous nerves.

CASE VIII.—F. F. B.; married woman; 45 years old; has had three children; the last labor instrumental, followed by puerperal fever, eight years ago.

Menstruations too frequent, 21 days; too profuse and too long, 14 days; some pain; constant whites. She presents slight descent of the uterus. She has general peripheral sensory neuritis, affecting particularly the shoulders, chest, pelvis and lower extremities, both sciatics. There is pronounced tenderness all over the area of the pudic nerves. Suffers for 24 hours from pelvic digital and instrumental examinations.

This woman has general peripheral neuritis, pelvic neuritis with the rest. She refers it to child-bearing time. It is to be noted that her pelvic organs were abused by the last instrumental labor, which was followed by puerperal fever, and that she has slight descent of the uterus. This patient was operated upon for the repair of cervical lacerations since the last childbirth. This may account for the fact that the pelvic neuritis is not any more severe than that of other locations.

There is but little comment called for upon this child-bearing class of cases. All present the evidence of being injured during labor, in the shape of pronounced lacerations of the cervix. It is true that in Case VIII. this damage has been repaired by operation. This fact may be taken as proof that the harm had been inflicted.

We have the association of pelvic neuritis with undeniable puerperal damage. And I think that there is little reason to question the relation of cause and effect between the two.

Tuilant, in his monograph, divides the cases of polyneuritis which he presents into two classes, the generalized form and the localized form, and this last into the superior type, those affecting the upper extremities, and the type inferior, those located in the inferior extremities.

In the matter of causes he accepts two only as being beyond dispute, holding that the polyneuritis of pregnancy is due to the same kind of infection which produces the uncontrollable vomiting, while that of parturition he attributes to the febrile-infective sequences of labor.

He is inclined to reject entirely the theory that pressure or mechanical causes can be held responsible for any case of neuritis.

Cases four, five, six, seven and eight, presented by me, can be fairly enough, I fancy, held to have been caused in accordance with Tuilant's theory, wound infection taking place after a surgical procedure in case four, after cervical lacerations of labor in the other four cases.

But what are we to do with cases one, two and three? In these the neuritis appeared apparently as a sequence of the application of mechanical means, applied with remedial views it is true, but in such times and fashion as would justify the view, I think, that the pelvic neuritis was the result of physical violence.

Certainly, there was no wound infection in these cases. There was nothing in the histories to suggest that any kind of infection had taken place. In two cases descent of the uterus existed when I examined them. What called for the treatment in the third case I do not know, but all three had been subjected to mechanical treatment, lifting the uterus, packing and tamponing, and the inference is at least respectable in my view that the neuritis was the direct result of violence applied in this way.

In cases one, two and three there was no apparent source of infection, and, judging from the associations found, it seems to me warrantable to assume that descent of the uterus and mechanical treatment applied can be held responsible for the production of the inflammation found by me to exist in the pelvic nerve trunks and areas of distribution. In cases four, five, six, seven and eight I presume that there will not be two opinions, wound infection being ample to explain the phenomena which existed.

Some Unusual Manifestations of Hysteria.

By N. B. Delamater, M.D., Chicago, Ill.

It is my pleasure to present for your consideration a few selected cases of hysteria, in which the manifestations are out of the usual order. I will not tire you with full history of each case, but must beg your indulgence and patience to sufficient detail to show what each case is.

Miss P.; 15 years of age; American; wealthy family. Positively nothing in family history on either side, except a nervous temperament. No disease, no dissipation, no mental bias. The patient, as a baby, did not sleep as the others of the family, but was restless and uneasy. When about two and a half years old frequent attacks of earache; also frequent attacks of spasmodic croup. Until nine years of age slender, then began to grow stout and develop generally. When about ten was standing on the beach and saw a man drowned. This made a very profound and lasting impression on her. To this day cannot bear to go back to that beach.

First menstruated at eleven; painless, rather profuse, perfectly regular the first year; since then inclined to slight delay. At one time three months' and at another two months' interval. Still no pain; always fairly free and perfectly normal in color and consistency. No leucorrhœa, and no abnormal sensations in the genital region. School life shows no possible cause of harm. No urinary symptoms. Bowels regular. When about thirteen an attack of what was diagnosticated as la grippe; was quite sick two weeks; the most marked and serious manifestations were in the ear. There was middle ear inflammation, formation of pus, rupture, partial discharge, rapid closure. Middle ear trouble remained and was treated by an aurist for some time. The local ear treatment very painful; no outcry from patient, but on several occasions followed by nervous or hysterical condition for some time. Later an operation, under an anæsthetic; following this, quite a serious general nervous time.

During this time began to have frequent attacks of headache; very severe; changed location from time to time, with face flushed, eyes injected and sensitive to light; brought on by excitement or

jar; able nearly always to determine immediate cause; last one or two days; scarcely a week without an attack; menstruation makes no difference.

About this time the death of very dear friends caused two severe mental shocks. She now developed a series of epileptoid seizures. Careful inquiry into the special attacks clearly indicate that they are hysterical; has them from one to three times a month.

A very affectionate, demonstrative nature; a full, voluptuous form, rather large, prominent lips. A low, quiet talker, but exceedingly quick in motion. Never still, always in motion.

Physical Examination.—Eyes, slight hyperopia, +.25 corrected, disk and fundus normal; ears normal, except slight cicatrix in drumhead; nose and throat normal; lungs normal; heart normal; abdomen normal to percussion, auscultation and palpation; pelvic region perfectly normal; clitoris perfectly free; spine, some sensitiveness to percussion or pressure over seventh cervical, fourth, eighth, ninth and tenth dorsal vertebræ; a generally increased cutaneous sensitiveness; reflexes all normal.

A diagnosis of hystero-epilepsy due to strong nervous temperament and mental shock was made.

A month later she attended the Columbian Exposition; was there walking about all day. There was no sprain or twisting of legs, feet or body; no injury done in any way. Got very tired along in the afternoon; began to have a sharp, darting pain in right hip, severe enough to interfere with walking. Saw her again four weeks later; still had severe pain in the right hip, also in right knee, most severe around the knee-cap, also some in the heel; any jar was painful; when she undertook to bear weight on that foot in walking there was a sharp pain in the hip and the leg gave way under the pain, rendering walking almost impossible. Had seen two prominent surgeons, who diagnosticated it hip-joint disease. On careful examination I found a fairly clear case, but without characteristic position; also that the aggravation came whether leg was in such position as to make blow on heel communicable to hip-socket directly or not. Learned on asking direct questions that her most intimate girl friend had been suffering a good while from genuine hip disease. On getting the patient to describe her friend's case, found she had all the symptoms her friend had told her of. Urinalysis, quantitative and microscopical, showed nothing abnormal. Had Dr. N. Senn and Dr. Charles Adams examine her for hip-joint trouble; decided there was none. Diagnosticated another manifestation of

hysteria. The subsequent history and cure confirmed this diagnosis, the cure being brought about entirely through suggestion.

CASE II.—Miss L.; 21 years of age; a blonde; very nervous temperament; father and mother both excessively erratic and nervous. Going over the history carefully failed to reveal any attack of sickness, anything in school life, any nervous shock, any injury, or, in fact, anything that could be considered a factor in producing present condition, except that at 12 years of age had a very severe attack of diphtheria, in the course of which there was local poisoning or infection in one eye and thumb. Post-diphtheritic paralysis followed, causing ptosis of eyelid; had to carry arm in sling some weeks; an entire recovery, however, and no indications of any paralytic conditions since; the menstruation irregular, at times somewhat painful, rather scant; no leucorrhœa, no special symptoms of trouble in genital region; bowels regular.

A few months previous diabetes; passed large quantities of urine containing sugar, but did not feel badly at time; lasted about three weeks; was not drinking wine at the time. Had a fall on sidewalk about three years previous; struck back of head; but no immediate bad results. Since, however, has had a good many attacks, always the immediate result of some mental or emotional disturbance, in which would seem to lose consciousness for a few seconds, and show convulsive signs. Is of a very full, voluptuous habit and appearance—lips full, large, red; florid complexion. For some time now has had none of the epileptoid attacks, but has had constantly during waking hours a tremor of both hands, sufficiently marked to interfere with writing or needlework; cannot raise a cup or glass to her mouth at all nearly full without spilling part of the contents. I found her at my first visit suddenly attacked with blindness and deafness, also a complete paraplegia of upper extremities. Am unable to learn of any immediate cause for this attack.

The physical examination shows: A very slight hyperopia; a normal disk and fundus; no heterophoria; ears absolutely negative; nose and throat practically normal; lungs normal; heart normal; abdominal cavity normal; pelvic cavity, slight vaginitis, but nothing else; clitoris perfectly free, not large, but rather irritable; uterine position normal; superficial and deep reflexes of legs normal; superficial and deep reflexes of upper extremities impossible to demonstrate; no abnormal sensory conditions; the arms seem flaccid and relaxed, no tension and no tremor; urine, 50 per cent.

normal for twenty-four hours; urea, 80 per cent. normal for twenty-four hours; phos. acid, 55 per cent. normal for twenty-four hours; uric acid, normal for twenty-four hours; chlorides and sulphates, normal for twenty-four hours; coloring matter, normal for twenty-four hours; no albumen; no sugar; an abundant sediment, but composed of mucus and epithelial cells.

Careful study and test fail to get any evidence of the present condition being feigned. Can find no sufficient evidence of lesion that can cause present condition. Am unable to find any adequate cause for the tremor. Later I learned that there was, and had been for a long time, excessive sexual passion without gratification in any way.

Was obliged to give an opinion of hysteria. Case recovered suddenly, about three weeks later, as the result of a fright. Recovery complete.

Case III.—Mr. B.; 26 years of age; well built; rather firm muscle; good, well-proportioned form; a musician, amateur, but quite enthusiastic; also on board of trade; very sensitive and retiring; always having his feelings hurt, but makes no comments; grieves over these things, but no demonstration.

The history, family and personal, absolutely negative, except is bothered a good deal with sexual passion; masturbated not to exceed eight or ten times when about 14 years of age; never at any other time; has never had sexual intercourse.

For about eighteen months has had a decided tremor of the head, with some tremor in both hands. A short, fine tremor will pass away when playing any instrument or when very much interested in any special thing. No tremor when asleep, but constant, except as above, when awake.

A very full and careful inquiry fails to develop anything else in the case except that he had impressed on his mind a case of apparent paralysis agitans supposed to have been caused by self-abuse. A complete physical examination gave absolute negative results. Was forced to call this a hysteria. Several very plain talks with the patient by my partner, Dr. C. T. Hood, telling him exactly what I considered his case, also that no possible harm could result from that amount of masturbation, convinced him apparently fully and completely that we were right, and a gradual improvement set in, so that in a short time there was no tremor except for short periods and these quite infrequent. Marriage took away the last vestige of the trouble.

CASE IV.—Mr. B.; 36 years of age; tall, angular, but not markedly emaciated. Family history, including father's and mother's families, also brother and sister, reveals a very slight rheumatic tendency, and two cases of cancer in father's family, but not in immediate line. Nothing else.

The patient's history reveals attacks of sick headache when 6 or 7 years of age, always relieved promptly, however, by an emetic of Ipecac. These attacks ceased entirely when 12 years old. Very little school life. When about 12 years of age a horse fell with him on the ice, struck on the back, was unconscious an hour or two, back was lame a week or so, then apparently all right. When about 20 years old was affected by the heat sufficiently to grow dizzy and weak; was unloading logs, slipped and log rolled onto him, compressing chest quite seriously, was rather faint and weak, but nothing more. Was weak and could not do any work to speak of for about eighteen months; a good deal of pressure in chest and also an obstinate constipation; some palpitation of the heart at times. Began to feel generally nervous and to worry over everything. Up to this time had to endure a good many hardships; was in a new country, very cold winters, insufficient clothing, etc. Went to work in a drug store and then studied medicine; commenced practice and was married when about 23, and for a time very much improved in every way. Then he began to have catarrh badly, followed later by asthma. Finally gave up practice of medicine and changed climate; went to farming; the catarrh and asthma practically cured by this. During this time had a good deal of leg ache, with occasional sharp pains in the knees—one or both—also a general feeling of muscular lameness on the least exertion.

The present trouble began with the eyes; some defect in vision at times, occasionally double vision, with it a considerable headache. Had a double cyclotomy on the eyes, but later learned the defect in the disk was congenital and physiological. Still has occasional spells of trouble with the eyes; commences with a general nervous feeling, then a dull, grating feeling over head and in eye, then a general kaleidoscopic appearance before the eyes. Covering the eyes or lying down and closing the eye will always relieve in a very short time. There is always with these a feeling as if he might be nauseated. The next day the mind is apt to be clouded a little, memory not clear, gets the wrong words, etc. (this lasts a few hours only), but during the attack can, by covering the eye, make the mind work all right. Following the operation began to have a consider-

able disturbance of digestion. That is, gas in stomach and bowels; would gulp up and pass per rectum in quite large quantities. The character of food seemed to make no difference as to quantity of gas. It was tasteless and odorless.

Right after the operation, that is, only a few days, while asleep at home, a train accustomed to going through in daytime, delayed, came through between eleven and twelve at night, stopped with engine right in front of house and blew off steam; wakened him in great fright; could not go to sleep again. From that time for months could not see a Mogul engine (the make of this one) or hear one blowing off steam without fright. No other make of engine affected him at all. Even yet gets a start, only momentary to be sure, if one starts to blow off. Sleep has been very much disturbed ever since this time. Sometimes he thinks because of a desire to urinate; has been obliged to get up at night to urinate ever since that time. The constipation is quite severe; uses Glycerine enemas a good deal. The stool is not constipated, but difficult to expel. At times thinks cannot feel urine or fecal matter when expelled. Thinks some anæsthesia of the parts. Still has a good deal of pain in the legs; at times calls it rheumatic; at others is sharp and darting. Cannot walk about in the dark, staggers all over. As to habits, never masturbated; no sexual intercourse previous to marriage, not at all excessive since. No impotence now or at any time, but less desire than formerly. Never used liquor or beer. Never chewed tobacco, and smokes two or three cigars a month only, and never has more.

Physical examination shows:

Eyes, 1½° exophoria; a very slight astigmatism; there has never been any glaucoma; ears, normal; nose and throat, slight catarrhal follicular; lungs normal; heart normal; liver, some sensitiveness, not marked, over anterior lobes; no enlargement and misplacement; a general tenseness of abdominal walls, especially sensitive over region of stomach, but no increased area of dulness and no nodules; the portal circulation rather sluggish; penis, no stricture, nothing abnormal, except possibly a little hypersensitive; rectum, quite an ulcer between internal and external sphincter anterior; no hæmorrhoids; superficial reflexes normal; am unable to get any knee-jerk; cutaneous sensations apparently normal; heat and cold tests reveal nothing abnormal; gait suspicious of ataxy. With eyes closed, feet put down irregularly as in ataxy; with eyes turned to ceiling and head thrown back, the same. With eyes closed can stand firm on one or both feet, with or without shoes. Has no dif-

ficulty in putting foot on step in getting into a buggy without any assistance of the eyes. Can put his foot on round of chair with eyes closed. Can keep eyes closed and do this with either foot, changing them as directed, or change from round to seat of chair. Does this quite accurately, and barefooted or with shoes. Does not walk with eyes closed when barefooted. No tendency to any one direction. Nothing revealed by percussion or pressure over spinous processes.

In walking or standing with eyes closed, if undertakes to turn around must steady himself specially a little.

Urine.—Twenty-four hours' quantity normal; urea, 75 per cent. normal for twenty-four hours; phosphoric acid, 40 per cent. normal for twenty-four hours; total salts (less urea), deficient; chlorides and sulphates normal; coloring matter normal; no albumen; no sugar; no blood; no pus; very little mucus; no crystals; no casts; only usual epithelium.

Thus showing nothing except great deficiency in the excretion of phosphoric acid. At this time, unable to make a diagnosis, the case was very suspicious of locomotor ataxia. Concluded to keep the patient under observation a month before giving an opinion. During this time tested the reflexes a number of times, found that by having him sit in a favorable position and engaging him in general conversation, so his mind was not on his malady at all, I could by sudden and unexpected striking get a fair knee-jerk, but never could under any other circumstances.

Found also that the gait-tests varied from time to time very materially; also that some minor things I told him belonged to ataxy sprang up at the next interview. I had him take the Hypophosphates of lime and soda during this time, which gradually seemed to clear up the urinary symptoms, so that at the end of the month he was passing a normal amount of urea and 80 per cent. of normal phosphoric acid. I then gave an opinion of hysteria simulating locomotor ataxy. I learned later from the physician with whom he studied medicine that his mind seemed full of this particular disease at that time, and that he had for many years read everything he could find on this particular subject.

The subsequent history of this case, a period of six years, fully confirms the diagnosis. The ataxy is entirely cured.

CASE V.—Mrs. D.; 34 years of age; widow; never pregnant. Father a hard, steady wine drinker, also an excessively heavy smoker. Is and has for years been semi-narcotized by these agents all the

time. Was excessive in both habits before birth of this daughter. There were two cases of insanity in his family. The mother is dead; was a very nervous woman, and had a paraplegia for some years previous to her death. A sister of the patient has for years been verging on the border of insanity; a son of this sister is feeble-minded and epileptic. A brother of the patient is insane. The patient was a fairly healthy and level-headed child and young woman. Menstruation commenced at thirteen, has always been regular and practically painless. Has never and has not now any symptom pointing to uterine trouble. Was married at twenty-five; her husband lived less than a year, dying from an acute trouble of only four days' duration. No sickness until about eight years ago, then an attack of typhoid fever; sick six weeks; was in a somnolent or stupid condition for a considerable time, but made a good and apparently complete recovery. Five years later an attack of bilious fever, not severe, sick three weeks; a quick and complete recovery. One year later an attack of inflammation of the bowels; in bed a month; was quite sick. Thinks she has never felt quite well since. Has considerable bloating of the abdomen; feeling of fulness; eructates quite a little tasteless gas at times. It does not seem to make any difference as to the kind of food she takes. It will sometimes produce the bloating and uncomfortable feeling and sometimes not. Urinates frequently; it is quite clear when quite excessive in quantity, other days normal. Is in good flesh. Used to have frequent attacks of headache; pain in back of head and neck; head seems to be drawn backward; face flushed; sharp pains through the temples, always relieved by hot applications. The heart is irritable; that is, it beats rather forcibly and rapidly under slight excitement. Some five or six years ago, walking along, if a horse and carriage came up behind her suddenly, or any sudden shock occurred, she would fall on her knees—nothing more; no loss of consciousness. There was with it a sort of blindness and vertigo, lasting only a few seconds. Get up almost instantly and go on as before as if nothing had happened. Later found when out in the street, especially if any extra bustle, that her legs were heavy, that they did not seem to want to work right; as though she would stagger. Would take hold of fence or touch walls of building to keep herself from staggering. Later the feet began to drag, to scuff on the walk somewhat, so it is now quite difficult for her to walk in the street even when everything is very quiet. The dizziness and the heaviness of the legs is almost constant when out of doors, but

very little if in the house, but cannot walk fast even in the house. The gait very much like early stage of spastic paraplegia.

Physical Examination.—Eye, negative; nose and throat, negative; lungs, negative; heart, negative; abdomen, negative; genito-uterine, negative, as also the rectum.

Gait.—Can stand or walk with eyes closed all right, except there seems to be a constant tendency toward the left and to scuff the feet on the carpet. There is a little lifting of the legs by a motion of the body and an apparent effort to bring the legs forward. The superficial reflexes all right; the knee-jerk slightly exaggerated possibly; no atrophy or contracture; urinalysis normal, except at times when in excess and then simply dilute.

In this case I was very much puzzled to make a diagnosis; was inclined to an opinion that there might be some bulbar lesion. The fact that she walked so much better in the house at home than out of it or in my office—that is, when her mind was essentially on her household; that any sudden excitement always increased her trouble; that she would always be markedly worse when environments were such as to allow her to study herself; that the symptoms were mixed, some of them apparently being spinal, others cerebral, and that the motor symptoms, the reflexes and sensory conditions were not in accord—in short, that a lesion producing just the combination present was impossible, combined with the fact that I could not make out two distinct lesions, forced me to the conclusion that I had a hysteria simulating paraplegia.

This case recovered entirely without treatment. I do not intend to say she had no treatment, for she did have a good deal; but later on environments became such that it was impossible for her to get treatment and demand and engross her entire attention outside of herself, and some time later she suddenly realized that she was perfectly well.

I have selected these five cases for the purpose of presenting a few thoughts for consideration. In all of them we have marked motor symptoms, loss of motion, tremor or inco-ordination. In three of them we have remarkably close counterfeits of well-known organic lesions. In the other two, symptoms that might result from organic lesions in part at last.

There is a remarkable absence of sources for reflex irritation. In the first, a very slight hyperopia, which was not corrected. In the second, nothing. In the third, nothing. In the fourth, slight exophoria and astigmatism and a rectal ulcer. In this case there would

be sufficient to account for hysteria, but not for the peculiar manifestations. In the fifth, none.

In all there is present a neuropathic element. Two cases are males, three females. My experience has been that in the male the simulation of established, well-defined organic lesions is closer and retention of the type more uniform than in the female. This I attribute to the fact that, as a whole, the mind has been more fully developed in the systematic lines and in observation.

In all the cases there was suggestion in the direct line of the symptoms presented, objective and subjective. It has been my experience that in all cases of hysteria at all closely resembling any well-defined organic disease that suggestion has been present as a possible factor in determining the course. I am unable to account in any other way for the wide and varied manifestations. I cannot but believe that they are all alike in essential entity. Hysterias differ in etiology and in their course and symptomatology very widely; but it is always the same disease or condition, whether it occurs in the course of other disease or is idiopathic.

It is not my purpose to enter the field of treatment in this paper at all. I fully and firmly believe that if the medical profession once gets a thorough grasp of this as a disease *per se* that the successful cases will multiply very greatly. I also believe that if we comprehend that it is possible for this entity to assimilate both subjectively and objectively well-defined or ill-defined organic lesions we will give much closer study to all cases that present themselves to us, and will find very many amenable to treatment that now go through long years of torture and hopelessness.

Discussion.

J. T. O'Connor, M.D., New York, N. Y.: A paper, such as has just been read, consisting of a series of clinical accounts of cases simulating severe types of nervous disease, can hardly be discussed, because the facts given show that the cases have been diagnosed correctly in every instance, and that they have been cured. When a case comes to me, which appears to be hemaplegia, I do not decide too quickly, as it may be due to hysteria. It has been well said that hysteria can simulate almost any disease.

In this paper enough has been given to prove this. Had these not been cured by the means which the doctor adopted we might then doubt the diagnosis, but the cure settles that point. What, then, would I urge from my criticism of this paper? First, as the disease can imitate anything, I find that, both by unconscious suggestion and by conscious suggestion, I can accomplish a great deal

in these conditions. We should use every method at our command to direct the vital power in a line towards health. So strong is the power of suggestion in this class of cases that when, in my college lectures, I am showing these patients to the class I am very particular not to mention what the result of certain tests may be, or that the face is not involved, because, if I did so, the next time they came in the face would be involved. I think we must not forget to carry along with us the knowledge that hysteria may be present in real organic disease. I have seen a case, for example, of cerebral tumor where the paralysis was so severe from pressure that the patient could hardly walk, and at the same time hysterical manifestations were very strong. If I had not been sure that there was an organic lesion I might have thought it was nothing more than hysteria. We have to thank Dr. Delamater for calling to our mind the special points brought out in his paper.

C. T. Hood, M.D., Chicago, Ill.: I am familiar with some of these cases. There is one point which I wish to emphasize, and that is in respect to hysteria which is hereditary. In all cases which the doctor cited he gave you a very careful history of the hereditary conditions which led to it. In college clinics we see a great many cases of hysteria, and we find that the history of heredity has a strong bearing on the diagnoses. The cases which Dr. O'Connor has spoken of, where hysteria is present in organic troubles, are very common. During the college term I always have several members of the class visit me, when no one else is in the room, and recite symptoms that are similar to diseases which I have lectured on. Last winter I had four or five students that thought they were going to have locomotor ataxia, simply because they had been studying the symptoms of this disease. When we understand what may result from suggestion, both conscious and unconscious, then hysteria will be very much less common than it is to-day.

Dr. Delamater: I don't care to take up your time any further, so I will spare you from listening to any more remarks on this subject.

Disseminated Sclerosis, with Symptoms of Progressive Muscular Atrophy of Spinal Type.

By Joseph T. O'Connor, M.D., New York, N. Y.

Mr. S.; aged 56; seen March 25, 1896; was paralyzed on right side some fifteen years ago; the paralysis gradually disappeared, so that in three or four years he was well; later became blind, and was under treatment in a dark room for five or six months, sight gradually returning. At present, vision of left eye is only in lower part of field. For right eye, field is not invaded and vision is fair. Eleven years ago the left eye was drawn outward, into outer corner; the condition lasted a year or so. Has had gonorrhœa; denies syphilis.

Examination shows, first, a peculiar appearance of right hand, the thumb being adducted, the fore, middle and ring fingers apparently flexed at first phalanges, the little finger hyper-extended. The flexion required no force to overcome it, and the adduction of thumb was explained by the complete wasting of the thenar eminence. The first interosseous is gone, and in neither region could any reaction be obtained by either the faradic or galvanic current. From the same result in the common extensor of the right arm, I infer atrophy, and thus explain the position of the fore, middle and ring fingers.

There is hyperæsthesia all over the right arm as far up as the elbow, and almost anæsthesia for touch in the region of the back of the hand, palm of hand and last phalanx of thumb. Gross power of upper arm fair; flexor power of forearm good; extensor power weak; grasp of hand poor; knee-jerks exaggerated, more so on left; arm and wrist reflexes of both sides exaggerated, more so on left; pupils unequal, both contract to light, left larger than right. Has good recognition of heat and cold applied to arms. He makes no complaint about left arm. There is intentional tremor in both arms, very marked in right, but only showing to tests in left. There is slight nystagmus on looking to extreme right or left; no alteration of speech; bowels and bladder act normally; post-cervical, epitrochlear and inguinal glands indurated; slight amount of Romberg's sign, but no other ataxia. Face is symmetrical when tested, but tongue when protruded deviates to the left.

From the foregoing any neurologist would be justified in stating that the case is one of syphilis of the nervous system. The hemiplegia at a relatively early age, the remains of which are still present in the deviating tongue and preponderance of knee reflex of left side; the partial third nerve paralysis, of which the larger left pupil is a residue; and the marked induration of the glands in the three classical locations, indicate almost unerringly the existence of a previous syphilis.

If we stop at this point, content with the diagnosis of syphilis of the nervous system, we must blink the existence of the atrophy in the right hand, or else say that another trouble, progressive muscular atrophy of the spinal type, has been added. But even such admission will not account for some other and very important symptoms. I mean the so-called intentional tremor (although it is almost limited to the right arm) and the nystagmus, and I maintain that as yet we have not reached the right conclusion.

Taking the symptoms as they stand, the question is, What is the disease? The symptoms are strongly indicative of disseminated sclerosis, enough so to justify that diagnosis, explaining the atrophy by assuming that the sclerosing process has appeared in the right anterior gray horn of the cord in the lower cervical segments.

The literature of the subject has not a few instances in which atrophy of the spinal type of progressive muscular atrophy has been part of the manifestations of multiple sclerosis. Charcot, in his lectures issued under an American imprint in 1879, states this specifically, and in a lecture twelve years later, on the imperfect or broken forms of insular sclerosis,* he repeats the statement. L. Unger,† in a pamphlet concerning this disease in children, says that the disease may even be confounded with progressive muscular atrophy. Buzzard reports, in *Lancet*, January 12, 1895, a case of multiple sclerosis, with wasting of the thenar eminences and of the first interossei, worse on the right side.

Moreover, cases agreeing with the present one in another point are recorded. Gilbert and Lion (*Arch. de Physiol. Norm. et Pathol.*, 1887, 5) report a case of multiple sclerosis with hemiplegic symptoms, the hemiplegia being shown, post-mortem, to be due to the localization of the foci.

Duckworth, in *Lancet*, 1885, 1, 879, reports a case of disseminated sclerosis affecting exclusively the right extremities.

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* "Les formes frustes de la Sclerose en plaques," *Progrès Méd.*, 1891, 11.

† *Ueber multiple inselformige Sklerose des Centralnervensystems im Kindesalter.* Wien, 1887.

Can the manifestations in this case be due to syphilis, a disease which is noted for the multiplicity of its lesions? If we knew more of the causation of intentional tremor, or if the exact pathological differences between the two disease processes were determined, the question might be answered. Nevertheless Schuster, in *Deutsche Med. Wochenschrift*, ii., 878, reports a case of multiple sclerosis due to syphilis, and quotes Wernicke and Greiff as accepting syphilis as a cause of the disease. McCall Anderson, in *Glasgow Medical Journal*, February, 1895, reports a case of disseminated sclerosis from syphilis, and bases his reasons for such conclusion upon the undoubted history and the great improvement following the use of Mercurial inunction and Potassium iodide. If syphilis be a cause of multiple sclerosis, it is quite evident, as Schuster maintains, that cases so caused are not hopeless.

Michailow (*Wratsch*, 1889, 51–52) reports a case of sclerosis disseminata in which the symptoms, intentional tremor, paretic gait, scanning speech and nystagmus were present, and had gradually developed within some nine months. Fourteen years before the patient had had a hard chancre, but because of the lightness of the general symptoms had not been submitted to specific treatment. Yet upon his using Mercurial inunctions and Potassium iodide he was discharged greatly improved in seven weeks, and with all the signs of a cure in the near future.

The case is reported in the interest of preciseness in diagnosis, and with the hope of impressing upon beginners in the study of neurology the need of taking time in their examinations of cases before giving a final opinion when apparently unrelated sets of symptoms are present.

Discussion.

N. B. Delamater, M.D., Chicago, Ill.: We are indebted to Dr. O'Connor for a very scholarly paper. I think that there are very few general practitioners who have any idea as to the time required in study to be able to make an accurate diagnosis, or one that will satisfy themselves in many of these cases. I don't know whether I dare say it to you or not, but it is a matter frequently of three to five hours on the examination alone. I may then spend from twenty to sixty hours in study before I can make a diagnosis which is satisfactory to me, and there are many instances even then when I am obliged to say to the patient or to the physician in charge, or to myself, I don't know. The doctor has brought, in that particular case, the necessity of studying every little point. The main point, I think, is to know whether we can have sclerosis affecting the body without having some trouble in the anterior horn of the cord. The pathology he has given us, however, has put beyond question

that we may have sclerosis of nerve tissue beginning at any point in the nervous system, whether it be the spinal cord or brain. It must start somewhere, and the history clearly shows that it may start anywhere. Another point, not so well established as some others perhaps, yet I believe it is certainly a fact, and that is that syphilis may cause muscular sclerosis the same as any other form. Here I offer a little caution. Our authors, I think very many at least, are very prone to lay everything to syphilis. I know of many prominent physicians, many knowing much more than I do and having had much more experience than I have had, and who I am proud to look up to, who have said that every case of locomotor ataxia is due to syphilis, but I don't like to agree with them. When a patient comes to me and is truly anxious to get well, and tells me he has syphilis, I ask him when he contracted it; he don't know; I ask him to go into the details very carefully, and I cannot find any history of syphilis and I don't believe the man has it. But when I find a man who tells me he wants to get well and that he has never had syphilis, he may be honest when he declares he has never had syphilis, but I can generally charge that man with having had it. I would like to repeat again my caution, that every case is not due to syphilis.

E. R. MacIntyer, M.D., Chicago, Ill.: I was very glad indeed to hear the caution that our friend, Dr. Delamater, has left with us, and also was exceedingly interested in the paper and in the recitation of cases. I have had a little experience myself with these conditions, and, with Dr. Delamater, believe that they are not all due to syphilis, for the same reasons he has given. We are apt many times to do the patient an injustice. Another thing I wish to say, and that is with regard to the history and examination of the case. It seems to me that the family and personal history of the case is the first thing to start us on the road to a correct diagnosis. It takes a great deal of time and examination, as Dr. Delamater has said. Do not take the patient's word in regard to syphilis, because you will lose much valuable time if the case proves to be syphilitic. The point which I wish to emphasize is this: You must find out for yourself, as the patient may deceive even unintentionally.

Sara Allen, M.D., Charlotte, Mich.: I would like to ask the Chairman a question. I have had one case that could not move, would sometimes stand without the ability to walk. Now would you consider that a syphilitic case? The remedies which I used were Arg. nit. and Aurum met., and they relieved the patient to the extent that he was able to go out-doors and walk, but he would stand so long sometimes that it would tire everybody to look at him.

Dr. O'Connor: I am afraid that the doctor has been in the position which Charcot was in. Your patient had paralysis agitans, the patient, as the doctor said aptly, *was* chasing the centre of gravity; he will go as long as he can, will hurry, and finally

catches hold of something to prevent falling; the case is not syphilis, in my opinion. I had a case one time which I watched from the beginning, and it was very similar to this one. It is strange how cases will repeat themselves; his common expression was, "My feet feel as if they were anchored to the floor." There is nothing to justify a connection between syphilis and paralysis agitans. We are absolutely in the dark in reference to the pathology of the disease, and I have never been able to relieve a single case of it. I am glad to learn of the good results from Arg. nit. and Aurum.

DR. DELAMATER: I read a paper before our state society in which I gave the treatment of both the Old and Homœopathic Schools from 1850 up to the present time; I also gave what they said they expected from their treatment. I then said, "So far as I am concerned I to-day know of nothing except palliation." I am still in the same boat. We do get palliation in some of these cases from Aurum and Arg. nit.; I have used both of these remedies. Arg. nit. is the great remedy in the Old School. The Hydrobromate of hyosciamin is a good remedy for controlling the tremor in these cases. I have heard physicians say that they could get no results from this drug. I used to be in the same boat, but after experimenting for awhile I commenced making my potencies from Merck's Hyoscyami, and I always get results from it where I don't from any other preparation. If you use too much you will get an aggravation.

J. E. JAMES, M.D., Philadelphia, Pa.: Would like to know whether the aggravation was permanent or transient?

DR. DELAMATER: Only transient. I use the 4x of Merck's, and prescribe it for the tremor according to our provings of the drug.

B. W. JAMES, M.D., Philadelphia, Pa.: I cured a case simulating this trouble at one time; the patient had no mental symptoms, but she could not move her hands. She had had the rest cure for neurasthenia, and had also the grippe to complicate matters. I had great difficulty in getting the patient out of bed. I gave her Hyoscyamus, and she improved on that considerably. She wanted to go to the seashore, which wish I acceded to, and by that time she was able to get around considerably. I also used Cuprum acet. for the tremor, etc.

DR. MACINTYER: In the case which has just been recited I think it would have been well to have given Apis, to put live bees in the bed; then I think the patient could have moved her hands. Paralysis agitans has been a very discouraging disease with me, and it is encouraging to me to hear some one else say the same thing, and to know that somebody has been able to even palliate it.

REPORT

OF THE

SECTION IN OBSTETRICS.

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Sectional Address on Obstetrics.

By Henry Edwin Spalding, M.D., Boston, Mass.

In looking over the past year of work in obstetrical observation and research we discover nothing that will mark it in history as a milestone in the progress of science, but we do find that a vast deal has been done all along the line of this extensive subject.

Studies of *ovulation* (1) and *menstruation* show that either function may take place independently of the other. While menstruation is usually accompanied by ovulation, there may be the hæmorrhage without ovulation, and true ovulation may take place at the normal period, and probably at other times, without the appearance of the menstrual flow.

Ovulation and *fecundation* have been studied, and experimental (2) observations seem to show that it is quite possible for an ovum to escape (3) into the free peritoneal cavity and then be taken up by the tube of the opposite side; that the cilia of the tubes may exercise their propulsive functions independently of excitation incident to menstruation or coitus.

The *physiology* and *pathology* of *gestation* have received much attention. The question of *maternal impression* (4) has been taken from the field of mystery and popular superstition and carefully considered by some of our best authorities. From their deductions, it seems to be proved that both physical and mental defects may follow maternal impressions.

Ventro-fixation and *vagino-fixation* have now been recognized methods for treating uterine displacements a sufficient length of time to enable some accurate data to be obtained as to the resulting effect on subsequent pregnancies and deliveries. During pregnancy many have complained of pain at the site of fixation, nausea has been more severe and persistent, and the percentage of abortions seems large. At delivery, the dystocia resulting from these operations has been a frequent source of difficulty and danger. The large number of transverse positions is especially marked. This is accounted for from the fact that the fixed position of the fundus forces the womb to expand transversely rather than longitudinally. Of 54 cases (5) under one observer, about 10 per cent. had this malposition; in nearly 22 per cent. obstetrical aid was required; in nearly 4 per cent. delivery could only be accomplished by Cæsarian section. This set of cases seems to show a fair average of obstetrical complications resulting from ventro-fixation. The effect of vagino-fixation on parturition seems to be still worse, as might be expected. Of 12 cases (6), nearly 50 per cent., delivery was most difficult. In 3 of these, podalic version was resorted to. In 2 this could not be accomplished. In both, the head was in a diverticulum of the anterior wall of the uterus, and although in one instance perforation and the cranioclast were resorted to, in neither could delivery be accomplished until a free incision had been made in the anterior lip of the cervix and the adherent vagina. All of the mothers were saved; two of the children were lost.

In view of these facts, the propriety of performing either of these operations upon a woman who is liable to become pregnant is questionable, and the obstetrician demands that the gynæcologist shall first try faithfully all other means for restoring and maintaining a

displaced uterus in its normal position, and that these disabling operations be made only as a *dernier ressort.*

While *symphisiotomy* continues to provoke discussion, it appears to maintain its high position in the confidence of the profession. From statistics derived from the work of many operators, of varying skill, and including cases done under the most adverse circumstances, there seems to be a maternal mortality of 10 per cent., and a like heavy loss of children. Under the hands of the most skilled operators, and with aseptic surroundings, the maternal mortality has been between 2 and 4 per cent., the infant mortality still remaining large. In comparison with Cæsarian section, or porro, the death-rate is vastly in favor of symphysiotomy; and this including cases where the former were deemed too hazardous and the case would otherwise be left to craniotomy and the necessarily complete infant mortality. The chief argument in its favor is that where, theoretically, induction of labor would be demanded, with its attendant, immediate or remote, large infant mortality, gestation may be allowed to progress to term, when 70 per cent. (8) will be delivered without incident, and with little or no loss of children.

It might be here remarked that, in speaking of the relaxation of the sacro-iliac synchondroses, Braun (7) claims to have seen the symphyses as movable in young primiparæ as when symphysiotomy has been performed. In the Walscher position, the hips being brought near the edge of the bed, with the legs extended and allowed to hang over, this condition is taken advantage of. It is claimed (8) that by this manœuvre the antero-posterior diameter at the brim is increased between 1 and 1½ centimetres.

The latest new method of managing a case of *placenta prævia* is by *Cæsarian section.* It is possible that a case might be found where this would be justifiable. To say nothing of the extra hazard in which the woman's life would be placed from the operation itself, it does not seem possible that in a case of active, profuse hæmorrhage, any one would attempt to postpone interference while preparations could be made for the capital operation of Cæsarian section, and when the diagnosis has been made before active hæmorrhage has set in, there should be little difficulty in delivering with comparatively small danger to mother and child.

Puerperal septicæmia continues to demand attention. Prophylaxis has become greatly simplified by a more general reliance upon strict and perfect cleanliness, rather than upon the use of germicides. Douches are less generally used, except where a rise in tem-

perature and, perhaps, a putrefactive character of the lochia indicate the presence of sepsis. The value of asepsis and antiseptics has been proved by the study (10) of births during the five pre-antiseptic years from 1868 to 1872, and the five antiseptic years, twenty years later, from 1888 to 1892. The study covered 231,000 cases. The deaths from puerperal infection dropped from 1.3 per 1000 during the first five years to 0.8, nearly one-half, during the last five years. Without doubt, this is due to the radically-improved hygiene of the puerperal chamber, in which asepsis and antiseptics play a most important part.

The value and safety of the *curette* (11) is questioned by many, and the aseptic index finger urged as the best instrument for the detection and removal of retained morbific material. *Hysterectomy* is being urged by the surgical contingent of the profession as the most promising treatment for puerperal fever. Lusk (12) favors it in cases of pyæmia due to infected thrombi. J. M. Baldy (13) urging it, says: "Why wait until a second chill if a reasonably positive diagnosis can be made earlier?" He reports one seemingly critical case in which, while the tubes and ovaries were unaffected, the uterus was large and soft, and thrombi were found, not only in the uterine walls, but all through the veins of the broad ligaments, which were removed close to the pelvic walls. The woman recovered. To the impartial mind the case does not offer much in favor of the operation, for that the sepsis was not cured by the taking away of the uterus is shown by the fact that on the fourth day after the operation she had a severe chill, with a temperature of 105⅘°, higher than ever before, and later had an attack of phlegmasia. He has collated nineteen such operations, with twelve deaths. Dr. Tuttle (15) finds twenty cases reported, with fourteen deaths.

The advocates of this radical treatment unanimously urge that, to warrant the best results, an early operation is demanded; that the disease must not be allowed to advance beyond certain limits, but just what these boundary lines are they do not clearly define. One (11) claims that it is useless where the disease has spread beyond the uterus. Another (16) that for the acute, rapidly progressive and virulent forms of the disease occurring early in puerperium, the operation has thus far been a failure. For the ulcerative or suppurative metritis, usually appearing in the latter part of the puerperium, it has been a brilliant success. These opinions would seem to indicate that hysterectomy meets with brilliant success only

in those cases in which medicinal, curettage and other non-heroic treatment likewise meet with brilliant success in saving nearly all cases. A careful analysis of the cases so far published would seem to warrant the obstetrician's saying to the hysterectomist, "Hands off!"

Serum-therapy does not fail to come to the front as a cure for puerperal septicæmia. The cases thus far reported are too few to show any conclusive evidence for or against its efficacy. Dr. Vinay (17) has used the anti-streptococcic serum taken from a horse immunized against diphtheria, he thinks, with good results. This serum is useful only in cases coming from streptococci, having no effect upon septicæmia due to other bacteria. But since the most virulent forms of the disease arise from streptococci, he thinks it advisable to use it in all cases, because to be efficacious it must be used early, and the time spent in making cultures to discover the special variety of bacteria present might carry the patient beyond possible relief. It is advised, wisely, I think, that other treatment, both local and general, be vigorously applied at the same time.

The possibilities held out by the Roentgen rays as an ally of the obstetrician in making a correct diagnosis in ectopic gestation, as regards position, multiple pregnancy, fœtal dystocia, from malformation or tumors, raise our liveliest anticipation as to what the observations of the coming year may bring forth.

Hæmorrhage into the Sac During the Ninth Month.

By Lamson Allen, M.D., Worcester, Mass.

My reason for bringing this subject to the consideration of this representative body is its rare interest and great importance. For whatever endangers the life of the fœtus *in utero* must engage our most earnest attention as practicing physicians; and whatever concerns the clinical history of pregnancy is of deep interest to all who practice the art of obstetrics. The life of the fœtus may be endangered and its nutrition cut off by certain discharges which originate in the cervix or in the womb. These discharges may involve the double risk of its intra-uterine starvation or of precipitating its premature delivery, or of both. Among these discharges it is rare to find such a case and such a termination as I am about to describe.

On the 26th of May, 1895, a note was sent me by Mrs. D., saying that she was having an offensive vaginal discharge, and, if I thought necessary, to call immediately at her home. She had passed her expected date of confinement about two weeks, so I answered her call at once. At my visit she said she had not felt motion for two weeks. She had been in apparent good health during the last three months, as she had during the whole of her pregnancy. She knew of no reason why the movements should cease, for she could give us no history of trauma or fright. Neither had there been any pain of any kind or any sign of shock. And the only thing that seemed in any way wrong was the ichorous discharge, with the extended time of gestation. She was a primipara.

On examination I found the fœtus dead. The os was not dilated, but the cervix was soft and pliable. We at once proceeded to induce labor, and by afternoon of the next day labor was progressing normally.

At 7 P.M. of May 27th the os was fully dilated, and I burst the bag of waters. Instead of amniotic fluid we had over two quarts of unclotted blood, of the odor of fresh blood. Labor was normal, occiput presented in the right anterior position. The child was undergoing mortification, and death had evidently taken place at

the time motion had ceased. The child was perfectly developed, and there were no signs of injury to, or defect of, the placenta.

Concealed accidental hæmorrhage (for that is the proper name for this condition) is not a common affection. So far as we know, the causes are limited. The most common cause is trauma, and the blow occurs over the seat of the placenta usually. Other causes may be irregular or partial contractions of the uterus, causing separation of different portions of the placenta; rupture of the utero-placental vessels; or lacerations of a placental sinus.

Probably the most hidden cause of concealed accidental hæmorrhage is the toxæmia of pregnancy. Perhaps no one substance is especially dangerous to the pregnant patient, but the gradual accumulation of the nitrogenous waste, the potassium combinations and the animal alkaloids produce a condition of toxæmia, the symptoms of which are first observed in a disordered state of the nervous, digestive and excretory systems. Mental emotions are another cause.

Again, the detachment of the placenta may be due to general disease, such as variola, scarlatina, typhoid fever, or to local disease, nephritis, or acute atrophy of the liver.

When we consider that during the last three months of pregnancy the growth of the uterus is such as to weaken the connection with the placenta, we wonder that there are not more of such cases instead of less.

In accidental hæmorrhage the placenta is attached to the uterus at its normal site.

The symptoms of concealed accidental hæmorrhage are shock, which is greatly out of proportion to known hæmorrhage, acute pain, anæmia and excessive distension of the uterus. Sometimes the distension of the uterus marks the seat of pain. The flow of blood is seldom apparent, but when it is, it may amount to anything from an ooze to a gush. But this symptom is not to be expected in such cases, and when it does occur is only affirmative.

Accidental hæmorrhage may occur before or during labor. In the latter case the hæmorrhage ceases during the pain, because the pressure from the presenting part obstructs the flow, thus making it a diagnostic feature.

In the treatment of these cases we must be guided entirely by the circumstances of the case. If the woman has not advanced far in her pregnancy, and the hæmorrhage is slight, as shown by the symptoms and signs, and there is reason to believe that placental

detachment has not taken place to any great extent, then give her perfect rest in the recumbent posture, allay all excitement or anxiety, administer cool drink and the properly indicated remedies. Withhold as long as possible in compliance with safety the use of tampons or other irritating mechanical appliances, which will be sure to precipitate labor.

On the other hand, where the flooding is apparent or excessive danger is imminent, the woman is at her full term and the hæmorrhage is accompanied with pains or is without pain, or where the above or any former measures have failed, and labor is apparent, then the purpose of our treatment must be to bring on or increase labor, to induce uterine contractions and secure the expulsion of the child as far as is consistent with safety. And this is best done by rupturing the membranes.

By rupturing the membranes egress is given to the liquor amnii, and the excessive strain on the uterine walls from within is removed.

This expedient also helps to produce vigorous expulsive action. While this action plugs the os by forcing down the fœtus, it also compresses the placenta between the uterus and child, thus closing mechanically the mouths of the bleeding vessels. Such is usually the happy termination of the case for the mother, though the child is almost always dead. Goodell's celebrated collection of 106 cases gives a mortality of 51 per cent. for the mothers and 94 per cent. for the children.

Should, however, all the above measures fail, then we must resort to forcible dilatation of the cervix, preferably with Barnes's bags, and complete the delivery by turning, by the bimanual method or by use of the forceps.

After the delivery of the fœtus the case must be managed as in any other case of labor with its complications.

Discussion.

J. B. G. Custis, M.D., Washington, D. C.: Tender spots on the abdomen may mark the site of concealed hæmorrhage. The placenta may become separated at these points for a considerable time before labor without any serious results. The doctor's case justified the treatment, he having satisfied himself of the death of the fœtus. Without such certainty premature labor is but rarely indicated. The important point in the differentiation is the condition of the mother. If she presents anæmic symptoms which are progressive she should be carefully watched. Anæmic symptoms, accompanied by a rapid increase in the size of the uterus, mean hæmorrhages, and the case should be promptly dealt with. Always listen attentively

to the mother's description of the tender spots, and you may be able to give such advice as will prevent the dangerous condition. We have all found old clots in the placenta after delivery, and by careful examination we will be able to decide whether the clots correspond to the tender spots on the abdomen. These points are worthy of our careful consideration.

I am glad to hear Barnes's dilators spoken of. Last year there was objection to them on the ground that it was impossible to render them aseptic. For rapid and safe dilatation I do not believe that anything that has been substituted can take the place occupied by these bags, and they should not be turned down. I have never seen bad results follow their use. Time is an important factor in the treatment of all these cases, and the bags combine the possibilities of haste with safety.

SHELDON LEAVITT, M.D., Chicago, Ill.: I have but a few words to say in regard to this very instructive paper, and they are in relation to the points brought up by Dr. Custis, viz., the evidences of fœtal death, and the use of the Barnes's bag. Here are two practical considerations. First, what are the evidences of fœtal death? When the membranes are not ruptured and the os is not dilated, I believe it is difficult to say with any degree of certainty that the fœtus is dead. The mere absence of the fœtal heart-sound is of small diagnostic value, for I have repeatedly examined pregnant women at or near the close of gestation and failed utterly to find these sounds, and yet have delivered living children. The conditions which favor transmission of the heart-sounds to the listening ear vary in different cases. In one case we may have the dorsal surface of the child turned forward toward the abdomen, and in another very likely the fœtal thorax lies in close contact with the uterine wall, and the uterine wall in turn in close contact with the abdominal wall of the mother, giving a density of tissue which favors the transmission of sound. In another case the dorsal surface of the child is turned away, and then we may utterly fail to hear the sound of the fœtal heart, though the child be living. We may learn something from touch of the lower segment of the uterus, and, if sufficiently experienced, something from palpation of the abdomen; but we should study these cases very carefully before arriving at a positive conclusion concerning the state of the fœtus. Second, as to the use of Barnes's bags, I have never used them, and, as a rule, do not favor their use. I believe that it is extremely difficult to render such bags aseptic. They would certainly require most careful preparation. But my objection does not lie in that direction, I can see no especial advantage in their use. If we have reason to effect delivery, it is better for us and for the patient, I believe, to resort to what is known as *delivery forcé*. For dilatation I should prefer my fingers to any Barnes's bag. If there is time we may prepare the uterus by introducing within the os uteri, some hours before operating, a piece of iodoform gauze, which will have a tendency to soften and prepare the os for rapid dilatation. If an emergency arise put

the patient under an anæsthetic, dilate with the fingers to a point where it is possible to apply the forceps, and then deliver as rapidly as the exigency may require.

L. C. GROSVENOR, M.D., Chicago, Ill.: A word as to rapid dilatation. The finest instruments in the world for rapid dilatation are the fingers. I have tried them many, many times, and they are always on hand. Now, what is the best position, for it is very tiresome? The woman lies on her back, obliquely across the couch. If dilatation is sufficiently advanced to admit the two index fingers, kneel by the bedside with the elbows on the bed. Remember that you are to dilate gently and simulate nature by alternate dilatation and rest. Dilate as forcibly as possible with the palmer surface of the finger, then wait, as labor pains wait, for a moment or two, then dilate again. When we have this work to do, we have first to thoroughly cleanse the hands and nails, and then cover the hands with Campho-phenique; it is both an antiseptic and a local anæsthetic. I recollect being called in counsel in a case in the midst of puerperal eclampsia at the seventh month of pregnancy. The convulsions had been coming on every few hours for three weeks. Patient was 37 years old and in her first labor. I looked the case over and made up my mind that we must use forcible dilatation and deliver or the convulsions would kill her. We put her under chloroform, and in two and one-half hours had delivery complete, the toilet made, and the matter was a success. It is sometimes difficult to use the Barnes dilators, but the dilator I mention is easy of application.

F. W. MORELY, M.D., Sandusky, Ohio: I am much interested in the matter of diagnosis of fœtal death, and, as Dr. Grosvenor did not hear all the paper and discussion, I should like to say a few words and get his opinion. Dr. Leavitt referred to the matter and said that the diagnosis was sometimes a difficult matter, and that certain positions of the child *in utero* might make an absolute diagnosis impossible. I should like to have Dr. Grosvenor tell us his method of diagnosing fœtal death, and also if he considers it dangerous to use chloroform in any stage of labor.

M. W. VAN DENBURG, M.D., Fort Edward, N. Y.: I should like also to ask Dr. Grosvenor one question. I am much interested in the matter of rapid dilatation of the cervix. I have in mind a number of cases of my own where rapid dilatation was necessary, and I can think of several where it was all I could do with my short fingers to reach the cervix with two fingers of one hand. In primiparæ, where it is sometimes almost impossible to get more than two fingers in the vulva, and where there is a very small vaginal canal, how am I to get my whole hand in? In multiparæ it can be done, or where there is a large vaginal canal, or where the cervix is low down, but where there is a small canal, which is not at all rare, or where the head rests upon the brim of the pelvis, my

fingers, forced in as far as I can get them, will just barely touch the os; I am decidedly at a loss to know how to produce rapid dilatation with them. A few years ago I was called in consultation to see a very severe case of convulsions. I advised immediate delivery, but found that it was difficult to even touch the os. However, I forced my hand in and dilated with the fingers, then delivered a seven months' child with the forceps. There was no laceration of cervix or perinæum, and the child is a nice boy to-day.

DR. GROSVENOR: The reason why Chloroform is so absolutely safe in the second stage is because labor tones up the action of the heart. In the second stage it has a nice effect in easing pain and tends to relax the rigid os. It is a comfort to have something with which to relieve pain and aid in rapid dilatation. There is no patent method of giving it. I have used it many times. I now use it in more than one-half of my cases, and they run over two hundred a year. I never carry it to a point of complete anæsthesia. I have had them under its influence for an hour and a half and they knew nothing of what had happened when they awoke. I use a handkerchief or a napkin, with a sheet of note paper between the folds, never a cone, for you must mix air with it. Never pour it on; use only a few drops at a time, but apply often, and always just before labor pains.

A MEMBER: In reply to the gentleman who asks if it is safe to administer chloroform in the first stage of labor, will say, I regard it as absolutely safe when given in small quantities during the pains only, in all stages of labor. I give it in this way in tubercular patients, asthmatics and persons having heart disease, without any bad results.

But while safe, it is not applicable to a large proportion of cases during the first stage of labor. Why? Because we have many cases where anæsthesia will defer the pains, causing them to come farther apart, and in some cases stop them altogether. As to dilatation, we find in many cases the os does not dilate symmetrically. If the patient is on the left side the right side may be dilated until it is almost beyond reach of the examining finger, and the left side will be felt as a thick band over the median line of the child's head. In cases of this character, change the position of your patient frequently and you will secure more rapid and equal dilatation. In assisting dilatation I use my first two fingers very much, introducing them as a wedge between the os and the head of the child, and forcing them farther in during the interval between the pains. If the fingers tire, reverse them by changing the palmar surface of the fingers from the child's head to the uterine surface. By making this change frequently you will be able to secure continuous dilatation as long as necessary. The last case I attended before leaving home was that of a woman whom I had attended in consultation some two years ago, at the birth of her first child. At that time she had puerperal eclampsia; the delivery was instrumental; child

living, and the mother made a good recovery. The next time I saw her was when she engaged me to attend her in her second approaching confinement, which resulted a few days ago. When I arrived at the house, the nurse informed me the patient had been having a severe uterine hæmorrhage, and I found her anæmic and vomiting. I made no examination to determine the condition of the child, but delivered as rapidly as possible. Although the mother stated she felt motion when labor began, the child was stillborn. This was probably a case of premature detachment of the placenta. Now, having had puerperal eclampsia at one birth, and premature detachment of the placenta at the next, what may we anticipate at her next accouchement?

A. E. NEUMEISTER, M.D., Kansas City, Mo.: I remember being called in consultation to a case of eclampsia. The attending physician thought the fœtus was dead. I made a careful examination, inserting two fingers in vagina and placing my left hand over the fundus uteri. I waited eight minutes, but felt no movement. I then advised an anæsthetic for the removal of the fœtus. I made forcible dilatation with a large dilator and with my hand, then applied the forceps. The fœtus was in its seventh month and, to my surprise, alive and crying when removed.

DR. LEAVITT: I shall try to confine myself to the paper. First, then, concerning the signs of fœtal death, I may say that the term "placental souffle" is out of date. There is no such thing. It was formerly supposed that the souffle heard below and to one side of the umbilicus was the placental souffle, but this was found not to be the case. What is it? The term "uterine souffle" does not explain it. I am convinced, as the result of much study and observation, that the sound which we always hear, not at the location of the placenta, but to the right or left of the median line, below the umbilicus, arises mainly from the circulation of the blood through the epigastric artery, and is caused by interference with free circulation proceeding from compression of the uterus against the abdominal wall. This sound may continue after the death of the fœtus, and hence we cannot from it determine fœtal life or death.

DR. ALLEN: I am glad that Dr. Van Denburg spoke of short fingers, for mine are shorter than his. I have found some difficulty in making a diagnosis with my short fingers, and do not see how some cases can be easily manipulated, for there are some cases, even at term, where labor begins normally, where the os is beyond the reach of my fingers in small primiparæ. When the fœtus is outside the pelvic cavity it is a serious strain. If others can do the work with their fingers, it is to their advantage. It is wonderful sometimes how a discussion does not discuss the subject. The interesting part of this case of mine is that there were no clots inside the sac. One gentleman here has said that the

hæmorrhages spoken of have been external. I thought he said that he knew of no case of internal hæmorrhage among the 106 cases I referred to in my paper. I did not compare with other hæmorrhages. It may be compared with placenta prævia, but I did not bring it up because I thought it would lead to a diffuse discussion. As to the relative cleanliness of a finger anointed with Camphophenique and a Barnes's bag, I believe that no human finger can be made thoroughly asceptic unless it be covered with an impenetrable substance.

Recent Advances in Obstetrics.

By T. Griswold Comstock, M.D., St. Louis, Mo.

The art of obstetrics is the oldest in the practice of medicine, and as a science occupies a high rank, improving as experience increases with years. It is to be lamented that for the past thirty years our profession has seemed to study and cultivate gynæcology with more enthusiasm than obstetrics.

In the dark ages, even four hundred years ago, obstetrics was practiced only by females, and the celebrated physician Bartholini, about 1640, said of the art and science of obstetrics the following words: "Obstetriciam artem nec exercui, nec exercere volo." "I have neither practiced the obstetrical art, nor do I wish to do so."

As late as 1522, Dr. Wert, in Hamburg, disguised himself as a woman to attend and study a case of labor. He was detected, and, for his presumption, was burned alive.

How changed now! To be a skilled and expert obstetrist is a great accomplishment, and such a practitioner can well appreciate the words of Tupper, when he said:

> "Come to the mother when she feels,
> For the first time, her first born's breath," etc.

Where is the accoucheur who has not witnessed the intense feelings of a young parturient who for the first time has just looked upon her babe, and realizes that she is a mother?

When we studied medicine it was the unwritten law that it was necessary to be a skilful and experienced obstetrician before we could practice gynæcology; and likewise a good physician before we could aspire to become a good surgeon.

It is well known that much of the practice of the gynæcologist is the direct result of accidents and ailments originating in the confinement room. This being granted, if we, as "Healers" of the sick, are imbued with real love and enthusiasm for the good that we can do in our profession, we should not fail to make ourselves masters of the obstetrical art before presuming to practice either surgery or gynæcology.

Labor is a natural process, and we concede that many cases

would do much better when left to Nature, than treated by "meddlesome midwifery." Notwithstanding this, we find in practice a sufficient number of abnormal cases to require the obstetrician to be thoroughly instructed in clinical practice, so as to be ready to meet any emergencies, and wherever required to act promptly in giving the patient such instrumental assistance as may be necessary to bring to a safe termination any abnormal or protracted labor. Let us recall the facts of the parturition of the Princess Charlotte of Wales, in 1817. Her court physicians treated her in accordance with the practice which at that date was approved of by the highest obstetrical authority in England. In the case of the princess, the waters broke fifty-two hours before her delivery. She seemed to have died from exhaustion, the sequel of a lingering labor, and the autopsy showed that the uterus contained over twelve ounces of blood, proving the existence of complete uterine inertia. It was a dread of instruments that kept her attending accoucheurs from applying the forceps, and terminating early what proved to be a protracted and exhausting labor. At that date the watchword of the British profession was: "Meddlesome midwifery is bad midwifery." If the forceps had been used the life of a most amiable princess, heir to the crown of Great Britain, and likewise her royal offspring, might have been saved.

The few words of this paper are intended so be suggestive, and I shall only touch upon the recent advances and changes in obstetrics that have been discussed in medical journals during the past year.

Statistics of the mortality of confinements in maternities, as compared with those in private practice:

It has been found in private practice that the mortality of women in labor is twice as great as it is in well-regulated maternities. This being statistically proved is a matter of interest, and therefore the obstetrist in private practice should change his plan of treatment accordingly, so that he may show as good results as hospitals claim. The cause of this difference is that in modern lying-in establishments strict asepsis is the rule, so that the accoucheur is assured that the puerperal patient will go through her period of confinement in an apartment absolutely free from any heterogenetic influences that might expose her to infection. Unfortunately, in country obstetrical practice—occasionally in cities—practitioners have not yet learned the significance and the detail of thorough asepsis in the confinement room. The principle of asepsis in surgical operations is now recognized by all well-educated physicians, and it is quite as requisite

in the confinement room as in surgical wards. Unfortunately, in the country, where trained nurses are not to be had, it is difficult to practically carry out absolute asepsis. By the way, people are beginning to appreciate these facts, and we find some of our best and wealthiest patients, when they are ill, suggesting to us that they would prefer going to the hospital when they are seriously sick, because they realize that they will not only get better attention there than it is possible to secure in private, but that they will occupy an apartment absolutely aseptic. In obstetrical practice the more perfectly aseptic we can keep our patients the lower will be the rate of mortality.

The Perinæum and Method for Preventing Its Rupture—Episiotomy.

The rules for the prevention of rupture of the perinæum I need not mention, because they are well known to every good accoucheur; but it is necessary in certain cases, in order to save a greatly distended perinæum, to resort to the operation of episiotomy, which was first recommended by Sir Fielding Culd, the English "Man-midwife," as he was named in 1742. This operation, I am well aware, is neither known nor practiced by many obstetrists, but it is of such practical importance that I cannot pass it by. It is now advocated by the best authorities in our country, and more especially in Austria and Germany it has been in use for the past fifty years. There was a time when it was scarcely mentioned in any American text-book, but at present this is quite changed. It was once described and facetiously denominated as the "Young Practitioner's Operation," but now it is recommended by such authorities as Leavitt, Parvin, Hirst, Lusk, Winckel, Carl Braun, and the new *American Text-Book of Obstetrics*. Its success in preventing a traumatic laceration, by lateral incisions made in the vaginal ring, depends upon timing them so as to anticipate the tearing of the perinæum posteriorly into the rectum. The incisions are made laterally into the vaginal girdle, already distended to its utmost capacity, when, by either a blunt tenotomy knife or a pair of scissors, incisions are made at a point about one third way from the posterior to the anterior commissure at the moment the parts are most upon the stretch. The cuts extend inwards for about one inch, and this relieves the great tension of the vaginal ring, and the child's head will soon be delivered. As soon as the delivery has been accomplished and the woman is quiet, these artificial incisions may be sutured

with catgut, and they heal by first intention, and are much easier to manage than an antero-posterior laceration, such as would have occurred, unless these lateral incisions had been made.

Primary Operation for Lacerated Perinæum.

After every delivery, before the accoucheur leaves his patient, the perinæum should be ocularly inspected, internally as well as externally, and, if any considerable rent is found, it should be immediately repaired. This practice now almost goes for the saying, as it is the consensus of the best authors and experts in the profession, and no medical man should presume to attend a case of labor without having in his obstetrical bag the instruments and sutures necessary for the repair of a torn perinæum.

Lacerations of the Cervix.

Slight lacerations of the cervix occur often, especially in first labors, and are usually situated upon the left side, corresponding with the first position of the head, vertex left. They may be left to nature, as they are regarded by some authors, Parvin as "physiological." When, however, the tear extends up to the vaginal junction and a serious hæmorrhage is the result, the rupture may require to be sutured to stop the bleeding. This can be easily done, and silkworm-gut is the preferable suture. In such a case, to staunch the hæmorrhage, the operation is quite as necessary as the primary repair of a ruptured perinæum.

The forceps, now universally esteemed as an instrument for shortening the pains of a lying-in woman, by delivering the child with absolute safety and terminating a tedious labor, are now resorted to much more frequently than in former years. To sum up the indications for them, we may say that whenever during the progress of any labor the mother or child is exposed to danger from delay in the delivery, and the forceps can be applied and thereby the delivery hastened and danger averted, they are indicated, and should be applied without delay.

Puerperal Fever, Septic Infection, Septicæmia.

The name puerperal fever is now almost discarded by some of our colleagues, they arguing that it gives an incorrect conception of its true pathology. No less an authority than Dr. Robert Barnes, of London, says: "Puerperal fevers are fevers in a puerpera, and we may abandon the vain attempt to find one definite puerperal

fever, but recognize the fact that *there are puerperal fevers.*" In other words, Dr. Barnes admits that puerperal fevers may come from causes autogenetic, as well as heterogenetic. Although puerperal fevers are usually from heterogenetic causes, infection foreign to the patient herself, or from local origin, yet from clinical experience we are convinced that an essential fever may happen to a puerpera, and her attack may come from emotional disturbances, shocks, puerperal neuritis and other causes quite unknown. All cases of fever after labor manifested by a very decided thermal temperature, bounding pulse, purulent and offensive lochial discharges, giving any suspicion of infection, should be regarded by the accoucheur as grave, because such symptoms are presumptively diagnostic of a septic condition of the endometrium. With such symptoms to prescribe for, in addition to our properly selected Homœopathic remedies, local treatment should be employed and addressed to the uterine cavity. If there has not been a complete and clean delivery, and we have reason to fear that pieces of the placenta remain behind, curetteage of the uterus may be necessary.

This should be done with Rheinstædter's irrigating curette, and with strict antiseptic precautions, using either Lysol solution, one-half to one per cent., Sublimate, 1–4000, or sterilized water, as the practitioner may prefer. During the past year the curette seems to have gained increased confidence among obstetricians, and the advantages of the rinsing curette of Rheinstædter we can personally recommend, after having frequently employed it in clinical practice for the past three years.

"*Gonorrhœal labor*" has been mentioned in the obstetrical journals during the past year, and, sad to say, its existence is conceded. Some years since I read a paper before the Institute, in which I spoke of *gonorrhœal puerperal fever* as the consequence of gonorrhœa located within the endometrium and extended to the Fallopian tubes, occasioning salpingitis.

Puerperal Sepsis.

In grave cases of acute septic puerperal peritonitis, with exudations and suppuration within the peritoneal cavity, it has been proposed not to miss the opportunity of relieving this serious condition by neglecting abdominal incision—laparotomy—and cleansing the cavity by flushing it with sterilized hot water, and then to keep up free drainage. This surgical procedure has saved many a woman from a speedy and painful death.

Ophthalmia Neonatorum.

Gonorrhœal infection contracted during gestation is liable to cause another serious trouble—nothing less than ophthalmia to the new-born child. The therapeutics of this affection has heretofore been the modified, Credé's method of treatment, and when carefully carried out was usually successful. But it has been very sensibly proposed to institute prophylactic measures before the birth of the child to do away with this Credé plan of curing the tender infant's eyes, by not waiting until the mischief has been done.

One celebrated surgeon remarks that he "sees no reason why we should not prepare the vagina and cervix for a clean and non-contaminating delivery of a child, first, thoroughly and completely, as for an abdominal section, or for plastic operations upon the bladder, cervix or perinæum." This is a practical suggestion, and by treating the vaginal infection antiseptically before the labor, it may be possible to absolutely stamp out the dangerous ophthalmia of the new-born. It has been estimated that if we can do this successfully we can reduce the number of asylums for the blind from three to one. This is an appeal to the attention of every practitioner of obstetrics, as it has been found by statistics that 25 per cent. of all cases of blindness are caused by ophthalmia of the new-born.

We cannot pass this by without advising that with all of our precautions for treating gonorrhœal infection, it is our duty, without exception, to examine the eyes of every new-born child, and, as a rule, if we find anything about them that looks suspicious, they should be bathed with pure water, and a 10 per cent. solution of Boric acid should be instilled into each eye several times a day until the eyes are clear.

Abortion.

Cases of abortion are of such frequent occurrence that the young practitioner should be well instructed in their management. In large cities we often meet with instances of what is known as "Criminal Abortion," and not unfrequently we may have in family practice cases of habitual and recurrent abortion caused by the existence of latent constitutional syphilis in one of the parents In the management of abortions we must observe absolute asepsis, or, if we already find a septic condition to oppose, then we must treat it by antisepsis. If the abortion is incomplete, we must direct our therapeutical resources to remove all that has been left behind of

the membranes, and in septic abortions with infected maternal membranes, if we cannot remove with our finger the contents left in the uterus, we must resort to curettage and irrigation, made with aseptic precautions.

We have not named the Homœopathic medicines for septic conditions, because they will be indicated by the special symptoms that confront us in each case. I, however, wish to mention one remedy possibly not known to the profession generally, which has proved valuable and may be recommended as a prophylactic in habitual abortion. The remedy is Asafœtida, and is to be given in the first attenuation, or in triturated tablets of one to two grains, three or four times daily, selecting the period of the pregnancy at which the patient had her last miscarriage for their administration. Lastly, we can almost in two words give the treatment of a real abortion that cannot be prevented or averted, and that is to see that the *uterus is emptied.*

Mastitis.

The essential cause of inflammation of the breasts and of sore and cracked nipples is now frequently recognized as sepsis. It has been observed that this trouble seems to happen to a mother whose child has either ophthalmia, thrush or ulceration or sloughing of the cord at its insertion. It may also come from an unclean nurse, and for this reason no other than a trained nurse should be tolerated in the confinement room. If the nipples are at all affected by ulceration, they should be irrigated before nursing with a 10 per cent. solution of Boric acid, and after nursing with a Mercurio-iodide solution, 1–100. When they are fissured, a little Tannic acid should be dusted upon them, or they may be painted with tincture of Benzoin. Occasionally the fissures may require to be touched with a fine point of Lapis infernalis.

Albuminuria and its serious nature has been frequently commented upon during the past year. Here, again, "prevention is far better than cure." If among our patients a young lady has suffered from albuminuria, so that we fear Bright's disease, and our professional opinion is asked about her marriage, we should unhesitatingly advise against it. During pregnancy albuminuria is a serious matter, because of the threatening danger of uræmia and eclampsia. If, with the albumen, hyaline casts are found in the urine, the patient's condition is one to be regarded as serious, and cannot fail to worry the medical attendant until delivery has been safely com-

pleted. It is advisable that married women who have albuminuria should by all means avoid becoming pregnant.

Rigidity of the Os Uteri.

This painful accident in labor has been discussed during the past year. In two cases of the rigidity of the os the internal administration of Gelsemium, hot-water sitz-baths, hot-water douche-streams directed against the os and cervix, were all used without avail; then a 10 per cent. solution of Cocaine was applied to the os, and dilatation occurred within five minutes. In these cares the labor terminated normally soon after the dilatation was effected. Some practitioners recommend tincture of Lobelia inflata, but with this we have had no experience.

Rectal Injections. Enteroclysis.

As soon as convenient after the accoucheur is called to a case of labor already in the first stage, it is well to order a rectal injection of hot water, so that the lower bowel may be freed of all fæces present, thereby removing anything there like a mechanical obstacle, so that the child's head, when passing down, may have all the room possible. This proceeding is important, and in my practice it has been universally adopted for years past. Besides enlarging the capacity of the pelvic canal, it prevents absorption of excretory matters into the blood, as well as local comtamination from the presence of any fæces, and materially increases the activity and tonicity of the labor pains.

Dry Labors.

Occasionally we meet with cases where the bag of waters ruptures prematurely, and what otherwise would be a normal labor is converted into a tedious labor. Although heretofore such cases have been left to nature, yet a protracted labor is apt to be the consequence, and the forceps cannot be applied until the head has somewhat advanced. To make up for the premature evacuation of the waters it is now proposed to inject water at a temperature quite warm into the uterus. To effect this the parturient patient is to be placed in the Trendelenberg position, and, with a fountain syringe, the uterus should be filled with about one quart of water. The effect of this warm water within the uterus is to bring on the natural pains of labor, and thus overcome the uterine inertia. Cases are reported where this simple procedure has had a favorable effect.

saving the application of the long forceps, and quickly ending a painful and protracted labor. In another instance of a dry labor the treatment was followed by a speedy delivery, where otherwise version had been resolved upon as necessary.

The Walcher Position for Expediting Labor.

There is a new manœuvre in midwifery, by which the capacity of the pelvic route through which the child passes into the world may be materially changed. Its object is to lengthen both the diagonal and true conjugate diameters of the pelvis, by a change of posture in the lying-in woman, which I will presently describe. It seems that an Italian accoucheur, in Venice, as far back as 1793, proposed that a woman when in labor should be placed horizontally upon a table, with her lower limbs hanging down over its edges. He claimed that by taking advantage of this position the forced extension of the legs increased the antero-posterior diameter of the pelvis, so that the delivery might be accelerated thereby. This proposal seems to have been forgotten or ignored by the profession until Dr. Walcher, of Stuttgardt, in Germany, seven years ago, called attention to it; which proves true the quaint saying of Sidney Smith: "It is not the man who first says a thing that deserves the credit, but he who says it so loud and so long that at last he persuades the world that it is true." Dr. Walcher claims that there is a certain amount of mobility in the articulations of the pelvis, especially during pregnancy, and that the antero-posterior diameter of the pelvic inlet is not of a constant length, but varies with the position of the body. In other words, when the pelvis is extended by stretching the lower limbs and allowing them to be pendent over the edge of the bed, the conjugata vera measures from eight to thirteen millimetres, one-fourth to seven-eighths of an inch, more than when flexed upon the trunk. I am told that this lengthening has been verified by anatomists in experiments made upon the cadaver.* The usual position that we have been accustomed to adopt, when we wish to apply the forceps, was to place the patient upon her back, with her thighs flexed upon her abdomen. According to Walcher, while a woman is in this position the symphysis is inclined to approach the promontory of the sacrum, and the conjugata vera is thereby shortened at least six or seven milli-

* According to Prof. W. H. Taylor, *Cincinnati Lancet-Clinic*, Mons. Crouat, a Frenchman, has tested the Walcher position on cadavers, and found the diameter of the pelvis actually increased.

metres. On the contrary, Walcher contends that when the thighs of a woman are forcibly extended, with the limbs pendent over the side of a bed, a certain degree of traction is exerted upon the anterior portion of the pelvis, and by this forcible extension the conjugata vera is lengthened some eight to thirteen millimetres. This increase in length of the antero-posterior diameter of the pelvic outlet will be at least one and a half centimetres. It is recommended to place the woman in this position, not only when instruments are necessary, but also in normal labors when the head does not advance, and we have a rigid perinæum in danger of rupture. It can do no harm for the accoucheur to try this manœuvre; and it has been stated that in lingering labors, after placing the woman in this position, ready for the application of the forceps, suddenly the pains have increased and the delivery has followed spontaneously, so that the forceps were not needed.

Prolapsus of the Funis.

More than twenty years ago Dr. Thomas recommended for a prolapsus of the umbilical cord that the parturient woman should be placed in a reversed position—that is, in the genu-pectoral position. This was found to be a good suggestion, but the position soon becomes tedious, and as a substitute we now place her in the Trendelenberg position, which is far more agreeable for the patient and decidedly practical.

Years ago Dr. E. R. Maxon suggested that in malpositions of the fœtus the mother should be placed in a reversed position, and he stated that in many instances thus treated nature unaided would change the malposition into a normal one. We find in the history of obstetrics that postural treatment for the correction of vicious presentations, and for hastening tedious labors, was recognized and taught as early as the first century by Soranus, who perpetuated and elaborated some of the teachings and the writings of Hippocrates.

A parturient placed in the Trendelenberg position will be at an advantage when we wish to make external version, and in trials made this changed position has greatly assisted the accoucheur in effecting the turning. Dr. Newman in his history of obstetrics is our authority for the above, and adds: "The postural treatment, which is beginning to receive much merited attention to-day, has been intuitively followed by self-taught people whenever they are free to follow their own instinct."

Symphisiotomy for the Pelvic Deformities.

During the past seven years the medical journals have contained accounts about the success of an operation first suggested by Severin Pineau in his writings in 1598. It is said that Pineau never carried out his own proposal, but Sigault made the operation in 1777, and from this it was known in France as the Sigaultian operation. The operation thus made by Sigault was at first recommended and applauded by the Faculty of Medicine in Paris, but subsequently it was disapproved of by them. It seems to have been abandoned for about a century by accoucheurs in all countries except in Italy, where it has ever been recognized as an admissable measure in treatment of deformed pelves. Notwithstanding this, it is said that the results in Italy have never been satisfactory. Of late it has been revived, and now it is recommended as a substitute for the Cæsarean section and craniotomy. Dr. Sheldon Leavitt has made the operation with complete success, as both mother and child were saved. The statistics of the operation are still not complete, but I deem it worthy of mention because we find cases recorded in medical journals where it has been made with good results.

In deciding to resort to either symphisiotomy or the Cæsarean section, the matter resolves itself into the question, who has the most right to existence, when two lives are endangered and both are in doubt, but the mother's most? For the past three years the trend of opinion in the profession seems to have been opposed to craniotomy, and in its stead they have recommended either symphisiotomy or the Cæsarean section. When the patient and her nearest kin positively refuse to have either the Cæsarean section or symphisiotomy made, is it not then our duty, in order to save the life of the mother, to resort to embryotomy? To elucidate this most vital question I quote from the rules of the late Prof. Carl Braum, of the University of Vienna, as given by Prof. Parvin:

"Cæsarean section on the living woman, for the preservation of the living fœtus in pelvic deformity—in which the child, dead and diminished in volume, can be extracted through the pelvic canal, and the health of the mother can with probability be preserved by the perforation of the child's head—is it not permissible under the following conditions?

"A. When the parturient woman, in full consciousness and without any direct coercion, declines Cæsarean section.

"B. When the parturient woman is rendered unconscious by dis-

ease, eclampsia, meningitis, apoplexy, etc., by medicines, chloroform, ether, by poison, or intoxicating drinks.

"C. When the child's life has been imperiled by uterine contractions, attempts at version, or the forceps, or when the child is deformed, or not viable."

Therefore, in extreme cases, such as are named above, where we can do nothing to save a mother's life except to resort to craniotomy, we have no other choice.

Indications for Premature Induction of Labor.

This operation is now permissible for pelvic deformity, grave heart, lung or kidney trouble, when in the interest of either mother or child, pernicious anæmia, severe chorea, advancing and incurable jaundice, incurable vomiting momentarily threatening the life of the mother, in placenta prævia, in some exceptional cases of Bright's disease and eclampsia, when the fœtus is already dead *in utero*. In all such cases it is advisable to operate rather early than too late.

Ectopic Pregnancy and Extra-Uterine Fœtation.

Extra-uterine pregnancy seems to occur more frequently the past few years than formerly. Some progress has been made in its treatment the past year, but the former practice, to destroy the vitality of the fœtus in its abnormal position by means of either a powerful electric current, or by toxic drugs introduced hypodermically, has been quite changed and is now given up. The treatment most successful is to remove the fœtus and sac by laparotomy.

Extra-uterine fœtation is usually a tubal pregnancy, and is accompanied with certain signs that indicate the existence of pregnancy. They usually have suppression of the menses, abnormal vaginal discharges, possibly a tinge of blood in the flow, with sudden and recurring excruciating pains, fainting, falling temperature, rapid pulse, pallor, rigors and collapse. These symptoms should not be overlooked by the attending doctor, for if there is a tubal pregnancy the sac is liable to suddenly rupture in the early months, and a fatal result may occur before the attendant can reach the patient. In such cases the only treatment is a rapid laparotomy and complete removal of the cyst and its sac. Three such cases, recorded by Dr. R. Ludlam, are very interesting and instructive, and they all happened within one week. Two of them resulted fatally before Dr. Ludlam could reach them, and the third case was

in a collapse, almost *in articulo mortis*, when the doctor arrived, but a rapid operation was made with complete relief, and the patient's life was saved.* The most celebrated songstress and artist of the past twenty years died thus suddenly in a collapse, from the rupture of a tubal pregnancy, the previous existence of which was not known. Her death occurred in Paris some years ago.

Conjugal Relations During Pregnancy.

I would rather not mention this matter, and yet it is something important to the welfare of every pregnant woman, although some may regard it purely as a question of *casuistry*, but physicians stand as "watchmen upon the walls," and we must not ignore it. As it has been plainly and elaborately discussed by so classic an authority as Prof. Parvin, we will not apologize for its mention. As uncivilized and heathen nations have condemned it, it should be forbidden by the accoucheur, who should advise that husband and wife occupy separate beds during the latter's period of gestation.

Examination During Labor.

A celebrated authority says: "The ideal obstetrical art is to conduct a labor without even an examination or manipulation," and "careful midwifery should take the place of meddlesome midwifery." Nevertheless, the accoucheur should examine his patient in order to make himself acquainted with the presentation and complete diagnosis of the case; if he discovers anything abnormal he should assist in its rectification and favor the normal rotation, always with antiseptic precautions. Prophylactic disinfection, which has been advocated by some authorities, has been continued in eight and done away in twelve German obstetric hospitals. It is doubtful whether it is best to use even douches after a natural labor where the after-birth comes away clean, but with unhealthy discharges dependent upon abnormal causes, with febrile conditions, douches may be properly administered.

Chloroform in Labor.

For many years it was our custom not to give Chloroform unless some serious operative procedure was required. This course we have somewhat modified, and at present we give it frequently, es-

* *The Clinique*, Chicago, June 15, 1893. Article, "Ruptured Tubal Pregnancy," pages, 325–331. We have seen no other papers upon this subject published in the current journals of the past year so interesting as these three cases.—T. G. C.

pecially towards the end of the second stage, to alleviate the last pains when the head is about to pass. It is not advisable to give it in the first stage, but for the severe pains of the second stage it is a great comfort to the parturient and will do no harm. We unhesitatingly believe in labor cases that it is safer than Ether. The important point about Chloroform is to administer it properly, and it should never be given by any physician who has not had experience in its use. In cities it is customary for surgeons to employ a "chloroformer," who attends exclusively to its administration. Chloroform properly given diminishes shock, does not prolong labor, does not injure the fœtus, does not favor uterine inertia, robs the mother of the dread of the pains of child-birth, and has no bad effect upon the parturient after getting up.

Diet of Pregnant Women.

The proper food during gestation is an important matter, and for a healthy woman a diet somewhat restricted is preferable. A simple breakfast of a cup of tea or cocoa, oatmeal and milk, a little bread with butter, one egg and a little fruit of the season, will be quite sufficient. For lunch, a bouillon soup of beef, mutton or chicken, with bread and butter and fruit. For dinner, a small piece of meat, a little potato, or other vegetables of the season, stewed fruit, a plain dessert of cereals and meat in a small quantity, *once daily*, is sufficient. Stimulants are not advised.

In summing up the treatment of puerperæ, I wish once more to insist upon absolute asepsis, and when this rule is observed no strong antiseptic solutions for injections will be required. A healthy lying-in woman delivered antiseptically will need but little treatment during the puerperium. Simple diet, quiet in the confinement room, and then, if asepsis is kept up, nature will do the rest. In such a case even vaginal douches will not be required.

Discussion.

L. C. Grosvenor, M.D., Chicago, Ill.: The paper is as full of thought as an egg is of meat. The essayist speaks of the diet of the nursing mothers. You know there are many doctors, nurses and especially German mothers, who are constantly advising the use of beer, ale, etc. In England to-day there are 25,000 idiot children in the almshouses, children's hospitals, asylums, etc., all because the gestating and lactating mothers are constantly taking ale, beer and porter. When the milk of the young mother gives out she hunts the neighborhood over to find a cow which is not fed on brewery slops, and still she thinks she can take these brewery slops and

make milk of them, but she cannot any better than the cow can, nor half so well, for the cow has the grain and she has the beer (alcohol). I instruct the young mothers in arranging a nutritious and milk-making diet.

L. C. McElwee, M.D., St. Louis, Mo.: As to hetero-infection; this touches the point of difference between hospital and private practice. I want to say that I have never lost a patient of my own (private practice) from hetero-infection, although I have seen some fatal cases belonging to other practitioners. In labor cases I clean the hands as thoroughly as for a laparotomy, and always put on an apron borrowed from the woman of the house; when not making an examination I keep my right hand wrapped with a towel. Episiotomy.—I have been harshly criticised for advising this procedure, but have had no trouble with the healing of wounds. Some say incise the perinæum instead. I had a case in point last December, so I tried that. I incised as deep as the sphincter muscle, and the head passed safely, then the shoulder came along and tore through the sphincter, and for two inches up into the rectum. I made immediate reparation, and the wound healed nicely, but since that I have made the incisions laterally. When I have a case of obstetrics which makes no headway for an hour, I use anæsthesia and deliver. I make the anæsthesia complete, as for any other operation. Perinæum inspection.—It is not always safe to make merely an ocular examination; a digital examination should be made in each case. I delivered a woman three weeks ago Saturday of a child which weighed thirteen and one-half pounds naked; the head was ossified unusually and I had an awful time. The patient did not—she was asleep. There was no external laceration, but a chasm from the posterior lip of the uterus, and down on either side to the perinæum and labia. They healed very nicely, being immediately repaired with catgut. Curetting after abortion.—It has been my custom to tell patients that I should not wait upon them unless they allowed me to curette. I will not take the risk of allowing a woman to become septic if I can help it, but give a little anæsthetic and curette. I have had three cases of cracked nipples which persisted in spite of remedies, but immediately after the repair of a lacerated cervix the nipples healed.

J. L. Hanchett, M.D., Sioux City, Ia.: As to the matter of curettage, I have made a study of it, and have made the prediction that within fifty years it will be the common practice, about the eighth day after confinement, to make an ocular examination of the cervix to see if there is any signs of retained placental debris, indicated by a patulous os, from which flows a yellow, slimy discharge. These cases, which will usually have a lingering but low fever range, will be carefully curetted. The more I use the curette the less trouble I have with what might be called *the sequelæ* of confinement. I have never yet had any trouble resulting from a curettage.

As to the sac of waters, I was taught that it acted as a flexible

wedge, and was of great use in dilatation of the os; but experience has shown me that it is of comparatively little importance. We have been attributing undue importance to the sac of waters. In a large majority of cases it is small or not present at all.

C. T. HOOD, M.D., Chicago, Ill.: I want to thank Dr. Comstock for that paper. I do not do much obstetrical practice, but shall be glad to read that paper when it is printed. A few points might be enlarged upon. As to the case of the perinæum, it has been my practice to extend the perinæum with my hand, using chloroform, and taking two fingers and pressing downward and outward on the perinæum, until I could put my fist in without trouble. I have very few cases of lacerated perinæum, not more than two in the last hundred, which required any stitches. As to puerperal fever and the antiseptic douche, it was my practice for some years after leaving college to use the antiseptic douche, but for the last few years, after the first sterilized douche, I keep the external parts clean with plain water, unless odor appears. In the last two years I have used no antiseptics, excepting 1 to 100 of chlorine water. I have discarded the curette at full term. Where there is an offensive discharge and signs of sepsis, the intra-uterine douche has proven all that is required. In miscarriage the curette is invaluable, however. The ordinary breast-pump is an unclean abomination and a source of trouble. Then sometimes the breasts are emptied by some old woman with a mouthful of rotten teeth; it is a barbarous practice. As to rigid os, one word. I was told by a physician many years ago that a rectal injection of one part of Lobelia to four parts of water would generally relieve the condition. I have tried it and it works very satisfactorily. The bladder should be emptied before labor. As to chloroform— (time called).

J. J. THOMPSON, M.D., Chicago, Ill.: I repair a great many lacerated perinæi, and when I hear a man tell us that he has lacerations in only about 2 per cent. of his cases, I begin to think that we do not know much about labor. I believe that, with all precautions, from one-fifth to one-third of all primiparæ are torn during labor, and that those who have such a marvellously low percentage of lacerations to report either do not recognize a laceration when they see one, or else do not look for them. Such a report is absurd and should not be sanctioned by this body. Shall we admit that we are so careless as this would seem to indicate? If so, I get a great many cases from other practitioners as careless as I. If it is carelessness on our part, we should reform; if it is ignorance on the part of the others, we should inform them.

DR. GROSVENOR: There seems to be many physicians who do not meet with lacerations; the most of us are not so fortunate. According to the best records to-day, 33⅓ per cent. of primiparæ are torn in labor, more or less.

J. M. WALKER, M.D., Denver, Colo.: As to lacerations, I give due

credit to those who do not have them. Two physicians may work side by side, and one will have lacerations, while the other will not. I have a friend who is always telling me of the severe cases of diphtheria he has, and I know they are genuine. He is seldom without one or two cases of malignant diphtheria, while I get but one or two a year. One man may seem to get most of the hard cases and another man get the easier ones.

F. H. HONBERGER, M.D., Chicago, Ill.: In the first two or three years of my practice I had many lacerations, mostly due to my own carelessness—I allowed the cases to proceed too rapidly. We should retard progress in most cases and allow distension of the perinæum. You will find some patients who seem to have no elasticity of tissue, and in these the perinæum will rupture in spite of anything you can do. You will find some physicians who will look at a case which has been torn clear down to the sphincter, and say: "It is a small affair and needs no repair." Each case should certainly be given the benefit of an ocular examination, as many of the lacerations do not show on the outside. As to Chloroform, I use it at any stage, where the patient or the friends do not object. Give it just before each contraction until ready for delivery. You can control the head better by having the patient under an anæsthetic. Hold the head and allow it to come slowly.

TRIMBLE PRATT, M.D., Media, Pa.: In the matter of previous preparation, I have a plan which has added materially to my success. I manipulate the perinæum for at least a month previous to confinement with some unctuous material like Lanoline, etc. This I use internally and externally. With this precaution and slow delivery we shall be able to prevent many lacerations.

LAMSON ALLEN, M.D., Worcester, Mass.: I have tried rectal injections of salt water, and it has aided in dilatation when the internal remedies failed me. It has been my experience that it is generally the shoulder, and not the head, which causes the laceration.

H. W. CHAMPLIN, M.D., Towanda, Pa.: As to Chloroform, as a rule, I give it in the second stage only. It is recommended that it be given before and during each pain, but if you will also give a little after the pain the patient will get some sleep and be rested for the next pain. Sometimes I give Chloroform *only* following the pains. As to position after confinement, I always allow the patient to use the commode after labor, and she may sit up in the bed or on a chair for a few moments at a time, being careful to guard against the cold. Assuming the upright position several times daily, every day following labor, favors recovery and prevents complications. I do not allow the patient to get up on the ninth day; that is a fallacy which we have to combat. I have them remain in bed much of the time for three or four weeks. I have had but little experience with infection. The only case I ever lost was one where the husband contracted gonorrhœa from the nurse, one or both of whom

undoubtedly infected the wife. I had one case with high fever, where the curette was used to good effect; but it was almost impossible to draw the line between malaria and septic infection. After the uterus had been cleaned out thoroughly the temperature returned to the normal, but was followed by an intermittent fever, which soon yielded to anti-malarial treatment. The patient made a good recovery.

L. M. JONES, M.D., Brooklyn, Mich.: I attended a large number of obstetrical cases before I had the first case of laceration. That first case put me more specifically on my guard. After that one I can call to mind two hundred and thirty-six cases (and over) of labor, with only one laceration. You can use the hand to assist dilatation, and need no other means; and the progress of the head should be retarded. I have used Lobelia in drop doses and on the tongue with excellent results, and recommend a Lobelia injection applied directly to the parts, or, what is more satisfactory, a small, folded cloth or small sponge saturated with the Lobelia. A 10 per cent. solution in warm water is almost a specific for rigid os and for hour-glass contraction when applied directly to the parts for a few moments. I use about one ounce at a time, and never have had to make but one injection or application. The Lobelia I use both internally and as a local application; and I consider this remedy almost a specific in hour-glass contraction, as also for rigid os.

SHELDON LEAVITT, M.D., Chicago, Ill.: I fear that Dr. Comstock gave the impression that I have done twenty-nine symphisiotomies. I merely did the twenty-ninth American symphisiotomy.

DR. COMSTOCK: I believe in and practice ocular examination for suspected laceration. As to how often we have laceration of the perinæum, it reminds me of when, some years ago, I would get up in our conventions and speak of the use of forceps, some old fogy would get up and say they were dangerous instruments, and that he had practiced midwifery for forty years, and never had any occasion to use them. It disgusted me so I stayed away from many medical meetings. Now I hear some of them say they never lacerate a perinæum. Dr. Grosvenor says that 33⅓ per cent. of primaparæ are lacerated, and all of us who have had a large obstetrical experience know that, in spite of all precautions, we still have lacerations. Why it does not occur in the practice of Drs. Van Denburg, Hood and Jones I do not know. In regard to the laceration of the cervix, it is recommended to repair at once, but I have not yet gone that far. Dr. Leavitt says the results are not uniformly good. Lobelia is an old prescription, which came to us from the Eclectics, and will certainly relax muscular fibre. I had not deemed it necessary to speak of emptying the bladder before labor, because every one ought to know it. Sometimes catheterization will start up labor pains. It is true that the shoulder is as liable as the head to rupture the perinæum.

Cæsarian Section—Recovery.

By G. Forrest Martin, M.D., Lowell, Mass.

I was called March 14, 1896, to see Mrs. K.; age, 28; mother of four children. History, briefly stated, was this: Had been "flowing" considerably, off and on, for thirteen months. For past three months this had been much worse, and came away in gushes of blood whenever she was on her feet. Considering it a menstrual trouble, she had never consulted a physician until above date, when she fell upon the floor from exhaustion. Examination showed cervix raw, ulcerated and bleeding at the slightest touch; os open about one-half inch; on either side the region of broad ligaments was occupied by a hard mass, fixing uterus firmly into pelvis; rectum and bladder also drawn into the same mass; the pelvis "floored," as it were, with a hard, unyielding, immovable, cancerous mass, the cause, as one vessel after another was eaten away, of the repeated hæmorrhages. Abdominal palpation showed uterus high up, size of full term, and occupied by a living child. The "motion," though feeble, was unmistakable. Here was a dilemma. The pelvic floor was impassable. The growth was too far advanced and too hopelessly adherent to bladder and rectum to offer any hope of removal. Labor, I believed, was imminent. The patient was weak, bloodless and exhausted. A terrible death in labor seemed to be her fate.

I sent patient to Lowell General Hospital, to be ready for any emergency; put her to bed; had foot of bed elevated; fed her on Bovinine and malted milk at two-hour intervals, and gave Chininum ars. 3d internally, t. i. d. At the same time H_2O_2 was used to the os, and everything possible done to increase her strength. She rallied perceptibly for a week, and the hæmorrhage was held in check. About March 22d contractions, as if in labor, came on, and bleeding once more appeared. The same March 23d, and I ordered patient prepared for operation, which I performed the following day, assisted by Drs. Gage and Leland, of the staff, and Dr. Burnham, the house physician. The anæsthetic used was Chloroform, one part; Ether, three parts.

The abdominal incision extended from umbilicus nearly to pubes. Bleeding points were clasped, peritonæum opened, and an examination hastily made. Secondary involvements were too extensive to offer any hope from a complete uterine and ovarian extirpation. Decided to save the woman from the labor, and give her her only chance of a few months of life.

Flat sponges of gauze were packed about the wound, the uterus drawn up into it and incised. The placenta was found attached in front. No time was wasted, but incision made right through it, the hand plunged in, child's two feet and thighs drawn into the wound, quickly followed by the other parts. Sweeping the hand around in the uterine cavity the placenta was quickly removed and sponges dipped in *hot* sterilized water took its place. This brought about firm contraction and checked the hæmorrhage. Deep stitches of sterilized silk were used in the uterine wall; finer stitches of the same drew the peritonæum over the cut. The same sutures were used in the abdominal walls, in two layers, and an abundance of dry dressings applied. Drainage was secured through the cervix by a tent of sterilized gauze, inserted from above before closing the uterine wound. The growth was now curetted from cervix as much as possible and the vagina packed with strips of gauze. The latter was removed the following morning, and the cervical drain on the third day. The abdominal dressing was removed on the 29th, and a union by first intention shown, except in one stitch-hole, where a little suppuration took place. The patient made an uninterrupted recovery. Highest temperature, 101°; highest pulse, 124. (It was 108 from anæmia on entering hospital.)

Went home April 16th, and has gained steadily; been out to ride twice, and suffers little up to this date, May 20th.

Of course, the patient cannot last long with such a disease, but she can be made comparatively comfortable, and her family are now prepared for what must come. The peculiar features of this case are that such a patient could become pregnant in the first place; that a cancerous growth should progress so far with so little pain; that pregnancy should be so masked by a hæmorrhage, and that an intelligent patient should mistake her size for a "bloating" or "collection of water," and, lastly, the recovery, when the whole system was so drained and vitiated.

The child was fully developed, nails, hair, genitals, etc., apparently about eight to eight and one-half months old, but very poorly nourished. It lived but about one hour after delivery.

June 8, 1896.—Patient about the same, only a little weaker. Sloughing continues through cervix and vagina; terribly offensive, and the cachexia becomes more marked. Patient able to sew and read some, otherwise about the same.

Discussion.

G. W. Bowen, M.D., Ft. Wayne, Ind.: I was engaged on the 6th of this month for a confinement about the 10th. I was called on the 18th, at 9 A.M., about nine miles from the city. Labor was concluded one hour, but there had been no motion felt for twenty-five hours. The baby was blue. I put it in water as hot as I could bear on my hand, and in less than three minutes it began to cry. It is all right now. I removed the after-birth, which was black and friable. There was no odor, as the air had not reached it. I scraped out all I could with my hand and bandaged her. She was a little chilly, and later had some fever. I used no antiseptics to prevent infection. I gave her Aconite and Bryonia, one, then two and then three hours apart, until she sweat freely for three days. She is all right. I never use a cathartic. I have never lost a patient out of over fifteen hundred labor cases, and never use anything but simple cleansing. I have saved the lives of nine babies, one of which was apparently dead for two hours before I reached the house, by putting them in hot water. I saved one baby by the same method which had laid under water for half an hour. One woman was laid out for the grave, when I begged permission to put her in hot water. They finally consented, and in less than five minutes after she was put into the water she came to and is living yet. She had been lying in her coffin for a couple of days. Hot water starts up the capillary circulation. It was a case of catalepsy.

Albuminuria During Pregnancy.

By Florence N. S. Ward, M.D., San Francisco, Cal.

The scope of this paper will include:

1. A review of recent investigations as to the *ætiology.*
2. *Clinical significance* as deducted from an analysis of the reports of 552 cases observed in five of the largest maternity hospitals in Germany.
3. Personal experiences.
4. Deductions.

Owing to the present unsettled condition of medical opinion as to the nature of albuminuria, we are still forced to call the diseased condition of which albuminuria is one of its most constant and visible symptoms, by the name of its chief symptoms, either albuminuria or eclampsia. Throughout the paper, eclampsia will be included under albuminuria—the position taken being that eclampsia is but a secondary condition or culminating manifestation of a diseased condition of which albuminuria is the prodromal. That rare form of eclampsia will be excluded, which is purely of an epileptic type, in which no renal complication is manifest, as demonstrated by absence of albumin in the urine.

Albuminuria holds a very similar pathological relation to pregnancy that puerperal fever does to the puerperium. In each it is the gravest complication that can arise, ranging from the lightest to the severest type; in each the prognosis is always guarded. Each is an infectious process, differing from one another, however, in that albuminuria is an infectious process from *within* or an *auto-intoxication*, while puerperal septicæmia is an infection from *without.* Menge and Krönig's latest investigation shows conclusively that septic auto-infection in the puerperal condition is an impossibility.

When the cause and true nature of albuminuria will be as clearly understood as puerperal fever now is, likewise will our results in preventing and controlling it be equally good.

As soon as we touch upon the *ætiology* of albuminuria of pregnancy, we enter a debatable land where many investigators have vigorously labored to support their various theories, and though it

is but little more than fifty years since modern investigation upon this subject first began, multitudinous theories have been advanced and refuted. Investigators in seeking for the causes of albuminuria and eclampsia have pursued their researches on four different lines:

1. Changes within the kidney.
2. Pressure upon the uterus, including increased abdominal pressure from the gravid uterus.
3. Eclampsia bacillus.
4. Changes within the nerve centres.

It was in 1843 that Lever tried to prove, from a number of cases of puerperal eclampsia observed by him, that the seizures generally occurred with the appearance of a large amount of albumin in the urine. This dates an epoch in the study of this disease and the acceptance of the relations between eclamptic manifestations and a simultaneously-occurring renal disorder. Lever's conclusions were the only ones for many years, and were in fact the foundation, more or less, of all that followed. In 1851, Frerichs gave to the public his famous treatise on *Bright's Disease of the Kidney and Its Treatment.* He considered eclampsia nothing more than a uræmic intoxication due to the accumulation of an abnormal amount of urea in the blood and its transformation into ammonium carbonate. Litzneau and many other noted scientists believed this correct until Scanzoni and Petrof showed by experiments upon animals with Carbonate of ammonia that his conclusion was incorrect.

In 1863 Rosenstein tried to supersede the theory of intoxication by another published in his book *Ueber Pathologie und Therapie der Nierenkrankheiten.* He still held to the conclusion that the disease was a kind of uræmia, but ascribed a different cause to the uræmia, and allowed that the only pathological condition found in the kidney was that of engorgement. Virchow agreed with him.

1. Spigelberg and Cohenheim next differentiated eclampsia with from eclampsia without albuminuria. They held that eclampsia with albuminuria was due to the retention of excrementitious materials within the system. The other form was due to epileptic tendencies.

2. Halbertsma tried to prove by post-mortem demonstration that the disease was the result of *retentio urinæ* due to the compression of the ureters by the gravid uterus. Lochlein agreed with Halbertsma. In eight out of thirty-two cases that terminated fatally, Lochlein found characteristic changes in the ureters clearly marked,

dilatation above the pelvic inlet, the place where the strongest pressure is brought to bear by the gravid uterus. Olshausen believes not so much in the direct pressure of the gravid uterus upon the ureters, as the increased abdominal pressure, the result of the pregnancy, acting deleteriously upon the ureters and kidneys.

3. Scarlini, from examinations of the blood, the urine and the secretions of the intestines of women whose deaths were due to eclampsia, had succeeded in isolating a bacillus. He claimed he produced eclamptic convulsions in pregnant dogs by injecting the bacillus. The blood had a poisonous effect, and contained ptomaine products. E. Gerdes, in a most interesting treatise, claims to have isolated the eclampsia bacillus, claiming infection takes place from the uterus.

4. Among those whose investigations led them to believe that the nerve centres are chiefly at fault were Ostoff and Lantos, who placed the cause in the nerve centres, particularly the medulla oblongata reflexly excited by the pregnant uterus. Schröder considers cerebral anæmia the cause, while Schauta holds that acute circulatory changes are responsible, causing anæmia or hyperæmia of the brain.

Wernich, Brown-Séquard and Zweifel hold that there are epileptic zones or peripheral centres of excitation in the genital organs. Galabin and Leiblinger, as well as Otto von Herff, consider that the eclamptic symptom complex depends upon a peculiar change in the excitability of the eclampsic centres of irritation, induced by gestation and excited by urate poisons, lead, alcohol or infection.

Clinical Significance.

The experimental research and theoretical deductions may lead us through a maze of uncertainties, when we look upon the clinical picture of a disease; all observers agree to certain clear-cut characteristics that pervade all cases. Individual opportunities are rarely large enough from which to draw general deductions, and it is to hospital experiences that we must turn for this study. Most interesting clinical facts to be found in modern medical literature on this subject are furnished in the reports of 552 cases that occurred in different hospitals in Germany under most favorable opportunities for clinical observation. They are divided as follows:

"200 cases of eclampsia that occurred in the Royal University Hospital for Women, in Berlin, from September 1, 1885, to April 17, 1891," by Professor Olshausen.

"Report of 129 cases in the University of Leipsic," by Professor Zweifel.

"Report of 81 cases observed in the Royal Hospital for Women, in Dresden, from September 30, 1883, to June 1, 1891," under Professor Leopold.

"Report of 80 cases in the women's clinic of Frederick William's University, of Berlin, from 1882 to 1887."

"Report of 62 cases in the Obstetrical Hospital, of Königsberg, from 1866 to 1882."

In only one report is the *frequency* of eclampsia noted as compared with normal cases. Professor Leopold found that the total of deliveries during that period amounted to 10,718, out of which there were 81 cases of eclampsia, .75, or a ratio of 1 to every 133.

The preponderence of primiparæ attacked was noted in all reports:

	Primiparæ. Per cent.	Multiparæ. Per cent.
Olshausen,	74	26
Leopold,	86.42	13.58
Klinik at Königsberg,	85.1	14.9
Frederick William's Hospital,	83.95	16.25

Making an average of 82.31 per cent. for primiparæ, and for multiparæ 17.68 per cent., or almost *five-fold greater frequency among primiparæ than among multiparæ*, which agrees with other observers.

	I. Para. Per cent.
Winckel,	76.79
Lantos,	78.57
Lohlein,	85.4
Braunn,	86.3
Scanzoni,	79.4
Kopetsch,	75
Schauta,	82.6
Getthard,	85.1

Twin pregnancies were noted as more frequent. They occurred in 6.47 per cent. of cases as compared with the usual proportion of 1¼ per cent. The amount of amniotic fluid was noted as unusually large in only one case, in the others the distension of the uterus was not exaggerated.

Clinically, what is the relation of albuminuria to eclampsia? The per cent. of cases having albuminuria are as follows:

In Professor Olshausen's clinic, 32 out of 200 cases, no mention

is made of the condition of the urine, a circumstance partly explained by the inability to obtain urine from the patient by catheter. The remaining 168, with the exception of one, showed albumin in the urine.

In Professor Leopold's clinic, albumin was found in 90.79 per cent. of cases. In Frederick William's University, albumin in 79 out of 80 cases. In Königsberg's Hospital, 37 cases were examined for albumin, and in every case more or less albumin was found. Professor Zweifel found albumin in all of his cases. Similar results have been reported from other clinics:

	Per cent.
Winckel,	84
Schauta,	85.6
Lantos,	91.6
Ingerslev,	92.21
Lohlein,	96.22

Unfortunately, a complete record of the microscopical examination of the urine has not been made; all agree as to finding granular and hyaline casts in all cases examined microscopically. Among 20 that died in Professor Leopold's clinic one was without, one with but very little, albumin, and 15 with very much albumin in the urine. Thus, in the *fatal cases, the amount of albumin in the urine was considerably greater on an average, and the occurrence of albumin more regular altogether than in the lighter cases.*

Beside, a closer connection between albuminuria and eclampsia appeared to be evidenced by the fact that recovery took place *sooner*, and all symptoms of eclampsia disappeared more quickly the sooner the albumin disappeared from the urine. Œdema was found in 178 cases out of 423 recorded, making a percentage of 42; therefore, *eclampsia was associated with albuminuria in the majority of cases and with œdema in almost half the cases.*

Unfortunately, the information regarding hereditary taint is too inexact to be of value. *It was noted that when eclampsia passes off during pregnancy, it is not likely to occur during subsequent delivery.* The reestablishment of eclampsia during some later birth is a great rarity, though, in Leopold's Hospital, two cases are recorded of albuminuria and eclampsia in succeeding pregnancies.

As to the symptomatology of the prodromal stage, the chief symptoms noted were œdema, gastric pain, headaches, attacks of dizziness, desire to vomit, great restlessness associated with increased nervous irritability, cutaneous hyperæsthesia, occasionally amauro-

sis, and a symptom, observed by Professor Olshausen, of loss of memory or amnesia from before the beginning of the attack until recovery of consciousness during convalescence.

Mortality.—The average rate of mortality through the five hospitals was 22½ per cent, and although five-fold more primiparæ were affected than multiparæ, the disease is much graver among multiparæ, and the *mortality twice* as high as among primiparæ.

The prognosis is *most favorable where eclampsia sets in during the puerperium, least favorable during pregnancy, and stands between both extremes when the period coincides with the time of childbirth.*

Among the symptoms of the greatest prognostic importance is the *pulse* pre-eminently, secondly cyanosis, dyspnœa and sopor; also the seizures, not only their number, but their duration and quick succession, the condition of the urine and the temperature.

Fatal cases were those where the pulse remained rapid, was subject to rapid alterations in regard to fulness and regularity. Whenever this condition of the pulse continued for any length of time, or when there was lasting cyanosis and dyspnœa, the indication was urgent to deliver the mother as soon as possible. It was proven that complete emptying of the uterus favors the subsidence of convulsions; *this is more marked the milder the means adopted.* Eighty-five per cent. of the convulsions ceased on emptying the uterus.

The *prognosis* must always be doubtful, not only during the attack, but the sequelæ must be considered, among which affections of the lungs (inhalation pneumonia) and septicæmia play the most important part. The frequency of sepsis among eclamptic patients is proven throughout the hospitals. The prognosis for the child is less favorable than for the mother. The life of the fœtus is even more endangered than that of the mother by the rapid sequence of the attacks. It was noticed that after twelve to fifteen attacks the fœtus had ceased to live; often much sooner. Occasionally after more than fifteen attacks a living child was born, but, as a rule, these children died a few days after birth. The mortality of the children through the hospitals was:

	Per cent.
Professor Leopold's Hospital, ...	37.6
Professor Olshausen's Hospital, ...	28.0
Frederick William's Hospital, ...	36.25
Konigsberg Hospital, ...	38.1

Making a total average of 35 per cent.

Personal Experiences.

Personally, four cases in private practice have developed albumi-

nuria during pregnancy to such a degree that the urine in each case became solid or almost solid on boiling.

Three cases out of the four were primiparæ, the fourth was a multipara.

CASE I.—Primipara; age, 20; pale, waxy complexion. Gives history of grandmother having had eclampsia. Patient anæmic before marriage. Pregnancy uneventful until within a few days of labor, when œdema and albuminuria suddenly set in. When labor began the pains were weak and irregular; the patient heavy and partially comatose, but no seizures; instrumental delivery; small child; albumin disappeared rapidly in the course of a few days. Patient has since borne two children without return of albuminuria.

CASE II.—Primipara; age, 21; blonde. History of chlorosis before marriage; pelvic disease after; received local treatment until she became pregnant. Three weeks before the expected confinement suddenly developed general œdema and albuminuria. Was put to bed, placed upon milk diet and remedies, and everything done to relieve the kidneys. Pulse was very miserable throughout, running from 120 to 140 much of the time. At term she was delivered of a small, weak child that lived several months, but finally died of meningitis. The patient has since borne another child, and had no symptoms of the previous albuminuria.

CASE III.—Mrs. M.; age, 34; multipara; no hereditary history; menstruation normal; married eleven years; has had four living children and four miscarriages, the last, a three-months miscarriage, taking place in January, 1893, followed by retained placenta and profound septicæmia, from which she made a slow recovery. In June, 1893, I performed for her a trachelorrhaphy and curetting, as she had a very severe cervix laceration and endometritis dating from her first labor. The operation was followed by good health until March, 1894, when she mentruated for the last time, and a little later a diagnosis of pregnancy was made. On September 23, 1894, six months from the time of her last menstruation, she was taken ill with pains in the chest, back and head, œdema and vomiting of greenish fluids. After being ill from Tuesday to Saturday morning she was seized with eclampsic convulsions, having three in rapid succession, followed by coma. The urine was found to be solid with albumin on boiling, the pulse rapid and small. Active measures were at once instituted to bring about a better activity of kidneys and skin by applying heat to the back, wrapping her in hot blankets, securing free catharsis, and giving Gels. Under this remedy, and later Kalmia, as indicated by change of symptoms

she gradually improved for about a week. Then blindness appeared, beginning in the right eye, and gradually growing worse. Then the left eye became involved, and almost complete amaurosis supervened. During this time she complained of headache, frontal and occipital, pain across chest, backache, gastric distress, insomnia and nervous restlessness. The fœtal heart being indistinguishable, the fœtal movements having ceased, in the interest of the mother the indication was clear to empty the uterus.

On Oct. 28, 1894, under chloroform and with the strictest antiseptic precautions, the cervix was forcibly dilated, followed by the introduction of a bougie. Labor took place in 24 hours (pulse 100, temperature 102°) and progressed normally until the patient was delivered of a macerated seven-months fœtus. Pulse, immediately after the fœtus was delivered, was 122 and weak. There was a decided amelioration of all her symptoms, except the blindness and but slight diminution of albumin in the urine, two days after delivery there was three-fourths volume of albumin. The amelioration of the kidney condition was very slow, as the record of the case showed two months later that albumin was one-fourth volume; the microscopical examination showed granular hyaline and blood casts; one month later the records show albumin one-tenth volume, total disappearance of casts. Her improvement was constant in every way after this.

Opthalmoscopic examinations of the eyes were made by Dr. E. R. Bryant, Nov. 12, 1894, and revealed the following conditions: Discs swollen, hazy and hyperæmic, edges ill-defined, cribriform plate invisible, general appearance of light grade of choked disc.

Arteries about normal in size and appearance, veins distended and tortuous. Color of retina darker than normal.

Numerous hæmorrhages and white fatty degenerative spots in both eyes.

Right eye.—Number of white spots, characteristic of retinitis albuminuria, irregularly scattered between the disc and the macula lutea. The largest and uneven quadrangular-shaped spot about the width of the disc and about a third longer than it, situated external to the disc near the macula. Several smaller white patches above and below the macula and internal to it, one of which encroached upon the edge of the macula. Hæmorrhages indicative of the virulence of the disease, numerous and scattered irregularly about the regions of the disc and macula.

Left eye. Greater number of hæmorrhages than in the right eye.

Number of irregularly-shaped degenerative white patches between the disc and macula and scattered about the latter. White spots smaller that those in the right eye and macula comparatively free from them, although one almost touches the macula.

Subsequent examinations showed a gradual improvement in the color and appearance of the disc and retina.

The blood was gradually absorbed and the white spots have slowly disappeared.

Feb. 13, 1895.—Unaffected parts of the retinæ and discs returned to about their normal condition. Here and there are small pigment spots marking the position of the degenerative patches. In one or two places the bare sclera surrounded by pigment is to be seen through small holes in retina and choroid; some of the larger white spots still show traces of the fatty degeneration and are as yet to be distinguished by their light color in comparison to the surrounding comparatively healthy retina.

Vision.—Nov. 12, 1894.—Right eye, $\frac{1}{10}$; left eye, $\frac{1}{4}$ (1 letter).

December 10th.—Right eye, $\frac{2}{6}$; left eye, $\frac{2}{4}$ (1 letter). Both eyes, $\frac{2}{15}$ (3 letters).

Jan. 30, 1895.—Right eye, $\frac{2}{15}$ (3 letters); left eye, $\frac{2}{12}$. Both eyes, $\frac{2}{9}$ (4 letters).

Feb. 13, 1895.—Right eye, $\frac{2}{15}$ (3 letters); left eye, $\frac{2}{9}$ (2 letters). Both eyes, $\frac{2}{9}$ (2 letters).

Patient was discharged cured a year ago and lost sight of until a few days ago, when she reported as not having menstruated since February, 1896, and feeling very badly, with severe gastric disturbances. On examination, a diagnosis of pregnancy was given. Microscopical and chemical examination of urine show .05 per cent. of albumin and hyaline and granular casts, with pus and blood corpuscles. What course shall be pursued? Already a pregnant nephritis is established, and the question arises, shall we take the risk of inducing abortion, sacrificing the child for the sake of avoiding the calamities that seem almost certain to arise if the pregnancy is allowed to progress? This patient shows in a remarkable degree an intolerance to endure pregnancy. Though to all appearance a sturdy Scotch woman, yet of the four children that were born alive only one is now living.

Case IV.—Mrs. F.; age 26; married 5 years; sterile; no hereditary taint. Menstruation had always been very painful. Physical examination revealed an anteflexion of the uterus, conical cervix, pin-hole os, stenosis, tubes and ovaries normal, general health per-

fect. She had divulsion performed, followed by amelioration of the dysmenorrhœa and later pregnancy ensued, her last menstruation taking place Aug. 8, 1894.

Her pregnancy proceeded normally in every way until March 26, 1895, when she reported at the office on account of general œdema, headache and spells of dizziness. The urine, on boiling, was almost solid. The patient was immediately put to bed, every means were used to stimulate diaphoresis and diuresis and Apis was given internally. In two days the examination of the urine showed: Specific gravity, 1012; quantity in 24 hours, 1440 c.cm.; urea eliminated 1.1 per cent. or 15.8 grains; albumin, 1.2 per cent. or 15.8 grains. Microscopical examination showed many hyaline and granular casts, some epithelial casts, renal and bladder cells.

The same treatment inaugurated at the beginning was maintained through the fifty days of pregnancy that followed, labor taking place May 15, 1895. An accurate daily record was kept. 1. Quantity of liquids ingested. 2. Quantity of urine passed in 24 hours. 3. Amount of urea eliminated. 4. Amount of albumin, and 5. The microscopical examination. The daily examinations were most carefully made by my assistant, Dr. Sophie Kobicke.

It is interesting to note the changes that took place. In three days the amount of urea eliminated rose from 15.8 to 21.6 grains; the albumin decreased from 1.2 per cent. to .65 per cent., and the casts became fewer in number. The quantity of fluids ingested daily was maintained between 2000 and 3000 c.c. by so doing, the quantity of urine voided each 24 hours was kept above the normal average, or 1200 to 1400 c.m. daily.

The albumin in the total amount averaged 5 per cent. daily, the lowest amount was six days before delivery, .38 per cent. or 5.47 grains, from which point it gradually rose until the day of confinement, when it reached its highest limit of 2.5 per cent. The elimination of urea was maintained above normal, and averaged between 20 and 30 grains with but few exceptions. With the increase of albumin six days before confinement, a simultaneous decrease of urea was noted, the smallest amount being 1.2 per cent. or 11.52 grains. Daily microscopical examinations showed the constant presence of granular and hyaline casts. It was noted that whenever the bowels became torpid, the amount of urea was immediately diminished, the albumin increased, with immediate headache and dizziness, and active measures had to be instituted at once to relieve the system. The labor was normal in every way, and the child, though small, weighing only four pounds, was healthy and well and still alive.

The progress after confinement was excellent; the albumin immediately fell to .2 per cent. (urine drawn by catheter). The microscopical appearance constantly improved until a month from the birth of the child, only occasionally could a hyaline cast be discovered, and the albumin had diminished to .04 per cent. Later examinations showed the kidney had returned to its normal condition, and the patient is now in perfect health. The remedies used in this case were Apis, which did the most efficient work; Kalmia later for pains and aches through her body; Sulphur indicated by her symptoms as a constitutional remedy, and later Chin. arsen. for the anæmia resulting from the loss of albumin.

This case illustrates what can be accomplished by *conservative* measures in saving both mother and child, providing the physician keeps thoroughly in touch with every point of the case and is prepared to act promptly at the first signal of danger.

DEDUCTIONS.

As to the nature of albuminuria of pregnancy and eclampsia, the evidence adduced by experimental research, by clinical observation and personal experience, can not fail but present the disease in a clearer light and give us the means of deciphering the underlying causes that produce and maintain it.

One of the main causes for the failure of investigators to arrive at satisfactory conclusions, to my mind, is largely owing to the narrow view that is taken of the disease and the tendency to centre upon *some single organ* as the one at fault and attribute to it all the varied phenomena of the disease. We, as Homœopaths, with our interpretation of disease as the *morbidly disturbed vital force that affects every part of the body*, can entertain a larger conception of this disease when its manifestations are brought before us for interpretation.

Bouffe's researches on *Lesions Anatomique que l'on trouve dans L'eclampsie Puerperale* throws much light upon the subject. He found upon post-mortem examinations that the pathological lesions of patients dying from eclampsia are always identical, and that the lesions of eclampsia are peculiar to themselves; they are found in no other disease, and are as distinct as the post-mortem lesions that characterize typhoid fever. He found that profound changes take place in all the internal organs, primarily the liver; secondarily, the spleen, kidneys, heart, lungs and blood. The changes were the same in all parts. First, *there were hæmorrhages into the tissues followed by degeneration of the parenchyma of the organs.* These changes accord more nearly with the profound manifestations of an eclamptic attack.

The theory that the kidneys are the only organs at fault, that the lesion is similar to Bright's disease, is not born out by clinical evidence. If an organic disease of the kidneys, why do the casts and albumin disappear with such rapidity, usually in two or three days after the delivery of the child?

If dependent upon pressure upon the ureters or intra-abdominal pressure, why does the disease not occur more frequently or when large abdominal tumors are present? Clinical observation has shown that the fœtuses in albuminuria are not large, nor is the quantity of amniotic fluid great; on the contrary, the children are much below the average in size.

As for the eclampsia bacillus, when numbers of reliable observers can isolate a clearly defined and characteristic bacillus of eclampsia that is capable of producing this disease with all its characteristics and pathological lesions, then may we believe in the eclampsia bacillus, but hardly before.

Authorities who believe that the nerve centres are at fault cannot bring forward any evidence to show that certain centres have been involved. Post-mortem examinations show them intact.

Before drawing our conclusions, let us turn for a moment to the physiological processes that are taking place in the maternal organism in a normal pregnancy. There is first a noticeable increase in the activity of all the organs, followed by hypertrophies, notably in the heart, that it may send larger quantities of blood to meet the increased nutritive demands, and also to pump it to larger areas. The liver, spleen, kidneys and thyroid gland likewise become hypertrophied. Think of the great nervous vitality necessary to carry on these processes, besides developing the fœtus. Should the nerve force be sufficient for all demands, the physiological process proceeds harmoniously, and it is normal. If by reason of lack of vital power to carry on these vegetative functions, by reason of exhaustion or the presence of some dyscrasia within the system, we have primarily an impairment of *function*, first observed in the *liver*, as proven by Massin in the Imperial Institute for Experimental Medicine in St. Petersburg. The liver being the oxidizing agent for the animal products, with its impairment there is the accumulation of the products of defective oxidation, which circulating through the blood, act deleteriously upon the parenchyma of different organs, particularly the kidneys, liver and spleen, and induce pathological changes in these organs. These result in a still further impairment of their function, the ptomaines or *leucomaines* increase in the sys-

tem until the auto-intoxication is so great that the dreaded seizures of eclampsia result. The whole picture is that of a system overwhelmed with a *poison;* the closest clinical analogy is found in the picture of acute poisoning by Corrosive sublimate. Professor Olshausen relates two instances of women dying in the hospital from Corrosive sublimate poisoning, and so identical were the spasms and accompanying symptoms with eclamptic seizures that they could *not* be *diagnosed clinically* from eclampsia.

Thus certain definite deductions can be drawn:

I.—Albuminuria of pregnancy, or eclampsia, is a disease peculiar to itself, and characterized by a very definite array of clinical symptoms and by certain pathological changes of the organs in the dead body.

II.—It is never manifest except as an accompaniment or following the development of the fœtus within the maternal organism.

III.—Clinical observation can furnish no evidence of *external* conditions sufficient in themselves to produce albuminuria of pregnancy.

IV.—Physiological research and observation show that the disease is the result of impaired action of certain organs *within* the body, principally the liver, spleen and kidney, resulting in the production of *leucomaines* and an *auto-intoxication.*

The principal deduction for us as Homœopathic physicians is that the disease is a morbidly disturbed vital force, amenable to our remedies. Its best treatment consists in watching our pregnant patients, in sustaining their vital forces, and in controlling slight deviations from normal as soon as they appear.*

* To this end, the examination of the urine is of prime importance, as it is the only fluid that bears evidence of the activity of the eliminative processes within the body. In suspicious cases, not only should there be daily examinations for albumin, but also for the amount of urea excreted, the quantity of urine passed in twenty-four hours, and also microscopical examinations. Each point is necessary for making a decision as to what course to pursue. Besides these points we must bear in mind the peculiarities of each patient, particularly the *quality* of the nervous system. Some patients with but slight leucomaine poisoning, but having marked neuropathic tendencies, will develop eclampsia, while others, with the system almost overwhelmed with leucomaines, will show no nervous manifestations.

Should the evidence point to increasing inability of the organs to perform their work, then the indication is to end the pregnancy, and save the mother, and, if the gestation be far enough advanced, possibly the child.

I shall not enter into the details of the hygienic care, nor of the remedies in-

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DISCUSSION.

SHELDON LEAVITT, M.D., Chicago, Ill.: A most excellent paper, dealing in an exhaustive manner with the subject. I believe the conclusion at which the essayist arrived is quite just. The phenomena observed in these cases come from auto-infection. The kidneys are unable to eliminate from the system all of the broken-down material, with the result that this condition is slowly but surely set up. Not always does marked albuminuria go on to eclampsia. I remember one case at the seventh month where the urine was so loaded with albumin that it was almost solid on boiling. The woman came to me complaining of ill feeling, but not recognizing her condition, though she was in a condition of anasarca —the tissues being loaded from the crown of her head to the soles of her feet. I watched the case attentively during the succeeding few weeks, but did not terminate the pregnancy. Arsenicum seemed indicated and was given. I placed her upon an exclusively milk diet. Gradually the albumin diminished in quantity, though at the time of confinement, which occurred some seven weeks later—

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dicated in this disease. Both have been so admirably presented at previous meetings, particularly by L. L. Danforth, M.D., of New York, that nothing is left to be said on the subject.

a little in advance of full term—the urine was still loaded with it. The anasarca, however, had considerably diminished. She passed through labor, which was rapid and easy, without alarming symptoms. After confinement she seemed relieved in some respects, although the urine continued loaded with albumin. This condition persisted for about two weeks, and I was beginning to grow alarmed about the outcome of the case. I was finally led to give her Sulphur, and, after a few doses of the 30x, the kidneys became very active, the woman passing large quantities of urine, the tissues unloaded, and in a comparatively short time the urine was entirely free from albumin. I have learned to attach great importance to the diet in these cases, and place the patients on milk alone. If I had to make a choice between this diet and the remedies, I believe I would choose the diet. As to eclampsia itself, I have had some interesting experience—I have had about a dozen cases, one-half of them in consultation. In four or five of these, believing that the woman would stand a far better chance of recovery if the labor should be terminated, I have instituted measures for delivery. In three which I can distinctly recall I found an obstacle in the shape of a firm and unyielding os uteri. In one case it was found absolutely impossible to dilate sufficiently to admit of the insertion of obstetric forceps. In these three cases, as delivery was immediately necessary, I incised the cervix on either side and delivered the fœtus. The laceration was then repaired, and union resulted in every case. In one, however, when examined some months afterward, I found the cervix notched on either side, but not to the extent very frequently seen after a normal labor.

H. P. SKILES, M.D., Chicago, Ill.: I would like to ask how soon or how early in these cases are we justified in producing labor? I remember a case I had last winter, one which I had carefully watched since the fifth month, knowing that she had lost her child in the previous confinement and was very anxious for this one. Along in the middle of the sixth month she began to manifest symptoms of albuminuria. I gave her remedies, but at the seventh month it was still more pronounced. Motion was perceptible and she felt all right. Near the eighth month she complained of flashes of light. At the completion of the eighth month she was taken with sharp pains in the head, followed by convulsions. She had three convulsions; not being at home, my partner was called and gave Chloroform. When I arrived I found her in a comatose condition. I introduced a bougie and induced labor; I could not hear the fœtal heart sound, so hurried things. During the next twenty-four hours she did not pass over one ounce of urine, although I gave her Apocynum in material doses. I then tried Apis 1x, which gave a good result, and the urine flowed freely. Apis had to be given for eight or ten days or the urine would almost cease. It was almost three months before she ceased having the flashes of light. How soon are we to induce labor and expect to have a living child? What are the indications for producing labor in these cases where,

at the sixth or seventh month, there is much albumin in the urine? This question has excited a great deal of attention in our neighborhood from the fact that, within the last eighteen months, two women have died from injections of Morphine on the eve of labor. The injections were given by different men, careful physicians.

DR. LEAVITT: We must be governed by the circumstances of each case. In all cases the practitioner should call counsel, and if, in their judgment, it is the proper thing to induce labor, no doubt the profession would uphold them, no matter what the stage of pregnancy. Where the parents are very desirous of having the child and are willing to assume some risk, or where they shrink from carrying out the suggestions of the physician, we are justified in allowing them to go on for a little time. As to treatment, I have learned during the past few years to place much reliance upon Chloral hydrate. Belladonna is generally of service, and Gelsemium frequently so. While I have not failed to give the indicated remedy, I have sometimes done more, thereby obtaining results not otherwise obtainable. I say I use Chloral hydrate, and in these peculiarly grave cases I use it freely by rectal injection. If the woman is having eclampsia and the seizures return again and again, and she is beginning to run off into a comatose condition between attacks, there is no time to be lost—those recurrent attacks must be broken up. Under these circumstances I have before now dissolved seventy grains of Chloral hydrate in warm milk, to which I added one egg, making sure that the Chloral is thoroughly dissolved. This I give at one injection, and in one case I repeated it in two hours, and brought the convulsions under control and saved the life of the woman. I have used this now in five cases, with a loss of only one. They were all very severe cases.

G. W. BOWEN, M.D., Fort Wayne, Ind.: I will not take them unless they will let me treat them for a month. After four weeks' time, if they are not well, I want a month more. Belladonna will relax the circular muscular fibres of the body; it will relax the ureters, allowing the water to pass. Arsenicum prevents contamination in any shape or form. I have counted as closely as possible on short notice, and remember having seen eleven cases of eclampsia in four and forty years. Seven of these were my own cases, the balance I saw in consultation. In the last six cases I have relieved the spasms inside of one minute. Spasms come from pressure on the brain or nerves. I am pleased to state what will stop epileptiform, infantile or eclampsic, in one minute; it is Melilotus alba. Spasms result from pressure or interference with the circulation. I put it in the mouth, even in case of epileptics lying on the street. I have given nothing else for fifteen years for any kind of spasms. I introduced this remedy to the medical profession. It *will* stop bleeding from the nose in almost every case. I use it in the first centesimal potency.

H. W. CHAMPLIN, M.D., Tonawanda, Pa.: It was in my mind to

speak of a few remedies not yet mentioned, but as the last speaker has a remedy which will cure every case, it will not be necessary. I am glad to say that I never came face to face with puerperal convulsions. I should not feel justified in allowing a case to go to full term with albumin, casts and general anasarca. I was called to see a case last winter where the urine was almost entirely suppressed, tissues engorged, but no disturbance of vision. Labor was expected when I was called, but held off a day or two, during which time I had great anxiety. I gave her Mercurius cor., and she was confined without bad symptoms. It was a case of twins, eight and nine pounds. The kidneys started up and eliminated gallons of fluid. I have always felt that in cases of this kind I should rely upon Veratrum, fifteen or twenty-drop doses hypodermically, and if that failed, I should try venesection. I have had some recent experience in venesection in case of one of our citizens who was suffering with convulsions. There was no albumin in the urine in this case, and we found no apparent cause, except in a disturbance of the circulation, similar to that of puerperal eclampsia—the pulse was full and hard. This man had two attacks; I was called both times. In the second attack, after having convulsions for twenty-four hours, not even controlled by chloroform, we did venesection, since which time he has had no convulsions. He was quiet immediately after the bleeding, the pulse became soft, and has remained so since. It should be borne in mind as a last resort.

L. K. MAXWELL, M.D., Toledo, Ohio: I should like to ask if the man mentioned by the last speaker was suffering with eclampsia?

ANSWER: He was not.

DR. MAXWELL: My experience is not very extensive, not having had any cases in my own practice. All my cases, and they are but three, have been in consultation. Have had quite a number of cases of albuminuria in my practice, some of them quite serious, one case showing about five-sixths of albumin, with œdema quite extensive. I am glad that a Homœopath of Dr. Leavitt's distinction will advise, if he thinks it necessary, something which is not strictly Homœopathic. My custom, in these conditions of great œdema, with inactive kidneys, is to give a hydrogogue cathartic to get rid of as much of the fluid as possible, prescribing, at the same time, the Homœopathic remedy which, after the relief afforded by the cathartic, acts much more promptly. The remedies most serviceable to me have been Apis, Arsenicum and Phosphorus. I have made it a rule to examine the urine of pregnant women at least once a week. Sometimes we anticipate much trouble and have none, and in cases where we least expect it we may have the eclamptic seizures. I have had the most excellent results from Bromidia in appreciable doses in the last two cases. It controlled the convulsions nicely, and the case went on to recovery.

H. E. SPALDING, M.D., Boston, Mass.: Some ten years ago I sent to this body a paper on eclampsia, and was sat upon for my pains. I was not there to defend it. I recommended the use of Pilocarpine, and see no reason to change my mind; I have used it to produce diaphoresis, and it has helped me out of some bad places. I will briefly report one case. I was to attend a woman in confinement whose sister had just died of puerperal convulsions. She showed signs of uræmic poisoning, and I feared the necessity of a premature delivery. She had flashes before the eyes, some dimness of vision and excruciating pains in the head, coming in paroxysms. The muscles of the neck would become rigid and pains would shoot up the back to the brain. I immediately gave her Pilocarpine in one-eighth grain doses until sweating was established, when the pain would leave her and she would be comfortable. The nurse was competent and occasionally administered Chloroform and gave the powders. I presume that at the close of pregnancy she took them every three or four days. One day the baby was born and she had no convulsions. I was giving the Homœopathic remedy at the same time. I used the Pilocarpine on the same principle that I use a catheter to empty the bladder; I wanted to get the water out of the system. Not as a remedy, but to protect the patient while the remedy acted. I use Apis, Arsenicum and Merc. cor. a good deal. It is asked how long would you wait, with hope of saving the child, before producing delivery? If it is at the seventh month, and there are convulsions, there is a better chance of saving the child than later; there is such a fatality attending the delivery of the fœtus that the sooner the better. If danger threatens the sight of the mother, or liable to have convulsions at any time, I induce delivery. I give Pilocarpine by the mouth, and never saw a bad result on the heart. I have seen congestion of the lungs result from one-fourth grain doses.

LAMSON ALLEN, M.D., Worcester, Mass.: I believe nothing was said of trauma in this connection. I was attending one woman pregnant at the seventh month, with albuminuria; she was getting out of a buggy when the horse started, throwing her forward on the abdomen. Inside of forty-eight hours she began to feel bad, and within four days œdema was manifest; in a week it was excessive. The case progressed until confinement; the child was born alive and is alive yet. It would seem, judging from the experience of physicians here and at other conventions, that some of the profession are more fortunate than others. Some will have many bad cases, others will meet with very few. I had wondered if the locality had anything to do with it, and whether the lead from lead pipes is not in some manner connected with the cause.

G. B. PECK, M.D., Providence, R. I.: I should like to direct attention to several points. First, the similarity between cases of poisoning by Corrosive sublimate and cases of puerperal convulsions. When I sent out letters of inquiry concerning this disease, a number of

years ago, quite to my surprise, I found that Merc. cor. received the highest number of votes, as being the remedy most frequently indicated. We have just listened to the proof of its Homœopathicity. Why more primiparæ are afflicted than multiparæ is that, alas, too many of the primiparæ affected have no chance to become multiparæ. I am reminded of one of the two ladies whom I had the honor to confine five times. The first time she was under the preliminary care of a cancer doctress, an Eclectic, who would not let me give Chloroform. My patient was unconscious at delivery, and knew not what was transpiring. Her face was livid. The second time I gave ether, and she had a satisfactory labor. The third child was born at 1 o'clock in the morning. I remained with her until about 3, and laid down for a couple of hours. After breakfast I took a walk to the office of her attending physician, where I was told the doctor had just been summoned by telephone to my patient's house, and that she was in convulsions. He gave minute doses of Morphine, with Belladonna 1x and Gelsemium 1x in alternation. Each convulsion was anticipated ten minutes, by a pain in the head. By keeping her slightly under Morphine for twenty-four hours, until the remedies had a chance to act, she was entirely relieved. Some of you are saying that this is not strictly Homœopathic treatment, and I hear the question asked, "Is this a Homœopathic meeting?" This paper shows the immediate cause is a poison in the circulation, a foreign body. If you have failed to prevent the formation of that substance, or to secure its prompt elimination, and we all may make mistakes, you do right in giving an anæsthetic or the Hydrate of chloral, as in administering an anæsthetic before an operation; the object to be accomplished is the same in both cases. When this lady was to be confined the fourth time she was in Philadelphia, and Dr. Dudley was her physician. I warned the doctor to look out for convulsions. He found the urine heavily loaded with albumin. He prescribed Arsenicum 3x and kept it up persistently. When I attended her at term I found not a trace of albumin. There was no sign of convulsions at this confinement nor at two subsequent ones. I have great faith in Digitalis and Hellebore.

C. N. DUNN, M.D., Centralia, Ill.: We do not seem to have much of it in our locality. I have seen five cases, with four recoveries. The worst of the cases which recovered received full doses of Morphine, hypodermically, in one one-half grain doses.

DR. MAXWELL: As to the possibility of it being due to lead poisoning, I want to say that none of the cases I have ever seen could have been due to that. As to its being said that this is not an Homœopathic meeting, Hahnemann never had a truer follower than the late Dr. Holcomb, and any one questioning the statements made here would do well to read the statements he made just before his death relative to the truth of Homœopathy.

A Study of the Placenta.

By Phœbe J. B. Wait, M.D., New York, N. Y.

As a study of the plant begins with the germination of the seed, so a study of the placenta begins when the vivified ovum drops into the decidual soil, there to be nourished, developed and retained until maturity. The seed germinates, the plant grows, its fruit ripens and falls by reason of having completed its cycle; the placenta likewise has its season of germinating, rooting, growing and developing regularly and systematically, then of ripening ready to drop at the end of its season, easily as the fruit drops from the tree or the nut from its rind. Any deviation from its regular rule is due to an absence of natural and healthful conditions, the result being a blight which is more or less disastrous to both mother and child.

Some one says: "Too little is known of diseases of the placenta," but as a fact too little is known of the placenta, whether in health or disease. The busy doctor, when labor is over and the placenta delivered, feels that his duty is done, and the placenta is left to incineration, often without an examination, to find whether the membranes were delivered entire or whether any fugitive piece may have been retained to produce hæmorrhage or more direful septic results. True, testimony which the placenta gives is always *à posteriori* in character, but from such testimony so much may be gathered that the intelligent obstetrician cannot afford to be without it. All such testimony carefully secured and reported would add valuable resources to our treasury of obstetrical knowledge.

Every warm-blooded viviparous animal, as well as the human creature, owes its fœtal existence to that complex, yet simple, fœtal appendage called the placenta, and vigor of the fœtus depends as clearly upon a healthy placenta as vigor of the child depends upon proper tone of the lungs and stomach. Oviparous creatures also have an analogue of the placenta, it being a placenta in a modified form, and more nearly corresponds to the umbilical vesicle, which precedes the placenta in embryonic life. The placenta in its embryonic stage completely surrounds the ovum, being in the form of the surface of a sphere, at which time it is an example of the diffused

placenta of certain quadrupeds. The delicate rootlets of the chorion penetrate the entire surrounding decidua, as rootlets of the plant push into the soft mould to draw up nourishment for the stalk. The ovum with its countless rootlets reminds one more of plant than of animal life, and an inspection of it at this time shows a parallel between plants and animals more close than at any other period subsequent to the original cell from which all life, whether plant or animal, springs. The umbilical vesicle, which precedes the chorion, points to parallelism running through all forms of animal life, the best example of which is seen in the newly-hatched fish, though it can also be observed in partially incubated eggs.

The placenta is by all authors conceded to be the most important fœtal appendage, while differences of opinion are noted as to both its anatomy and physiology. After the atrophy of the embryonic villi over a large portion of the ovum, the fœtal placenta gradually increases in size up to the end of gestation, when it resembles in shape a cake—for which reason it receives its name—and is nearly circular, from six to eight inches in diameter, one to two inches thick at the centre, tapering out to the membranes at the circumference, and weighs from half a pound to a pound and a half. It is most frequently attached to the uterus at the upper posterior part, being often found at the left angle, and is made up of a fœtal and maternal portion, which always remain distinct. The maternal side is formed of fœtal tufts highly developed, which dip down into the decidual membrane, so that the smallest rootlet of each tuft receives its proportion of oxygenated maternal blood, while the fœtal side is smooth and glistening, receiving the branches of the umbilical arteries which divide and subdivide, finally dropping into the substance of the placenta by the intervention of the chorion, and following the ultimate ramifications of the fœtal villi. The blood is returned by a number of veins which gradually converge to form the umbilical vein in the cord.

Very close analogies to the human placenta are found in all viviparous creatures. From Fleming's *Veterinary Obstetrics* I gather that the placenta of animals with a solid hoof, like the horse, covers the entire ovum as the shaggy coat covers the human ovum prior to the fœtal placenta. From its shape it is known as the "diffused" placenta. On the ovum is found a bare spot which corresponds to the os uteri, that affording no place where it can attach itself; but such spots are seldom found at any other point. The swine has a diffused placenta which differs from that of the mare by being arranged

in tufts or clusters, but these are so closely grouped that the ovum is entirely covered. In ruminants, as the cow, the placenta consists of a great number of tufts (sixty to eighty) known as placental or fœtal cotyledons, varying in size, but oval in shape. These tufts correspond to prominences upon the inside of the uterus, called maternal cotyledons, which are covered by the decidual membrane or serotina. The maternal cotyledons are not a growth following impregnation, but exist in the uterus of the young animal prior to that condition. Sheep and goats have multiple or tufted placentæ, but the maternal cotyledons are depressed instead of elevated, as in the cow. Placentæ of the canine and feline species are arranged about the ovum in the form of a band, and from their shape are known as annular or zonular. The decidua in these animals seems to be an extra layer of the mucous membrane which cleaves off as a distinct membrane after the birth of young.

Whatever the form of the placenta, its function remains the same, and gives interesting proof of a striking analogy existing in all forms of animal life. The student of comparative anatomy has but to know the variety of placenta to tell to what class of creatures it belonged, or conversely, what variety of feet an animal has to describe the placenta which it would develop.

Anatomically, the placenta is not difficult to comprehend; its mystery is shown in its power to interchange material between the oxygenated maternal and carbonated fœtal blood through the subtle process of osmosis. Compare this process as much as we may to that which goes on in the lungs of warm-blooded animals between the blood in the capillaries about the air cells and the external air, or to the blood in the gills of fish and the water in which they float, it is far more difficult to grasp and will always remain one of the most incomprehensible of the many mysteries of reproduction.

As the blood of the mother and that of the fœtus never meet, so there has never been traced any nervous connection between the uterus and placenta, yet no fact is better known than that of the intimate nervous sympathy existing between the pregnant woman and her unborn child. Racial and facial marks as well as tastes, habits and disposition even to minor idiosyncrasies, follow the child up and down through life like the grip of death, making one almost doubt the free moral agency of human beings. Yet these impressions reach the child only through the intermediary of the nerveless placenta, between which and the maternal blood an impassible barrier forever exists. Whatever can be said for or against the so-

called " mother's marks," no one has ever penetrated this nerveless station between mother and offspring deep enough to explain how the entire body of the child can be so unhappily affected through maternal sources, and yet a particular part of the child's body be not so affected. A fœtus was brought to my clinic the past winter of which almost every member and organ outside and in were shockingly abnormal. It was the second child of the kind born to healthy German parents, to whom normal children had also been born. When so much can be effected through the mother's blood on one side and the placenta on the other, who can say that less or more may not also occur to the unborn child?

If the root of the plant be vigorous the plant itself should be strong and hardy, and these two conditions presuppose a healthy and fertile soil, so, if the chorionic villi be healthy, the fœtus also should be strong and vigorous, which presupposes a normal, well-nourished decidua. Unfortunately it is difficult to determine where diseases of the decidua leave off and those of the placenta begin. The villi are known to be liable to diseases in early embryonic life, many an embryo being sacrificed before the end of the second month, probably about the end of the sixth or seventh week. Getchell most clearly describes these chorionic diseases. One of the most rare and interesting is manifested by dropsical effusions into the villi, being known as the " hydatiform mole," and was first described by Velpeau, who was born in 1795, began the study of medicine in 1816, and became Professor of Clinical Surgery in the Academy of Medicine, Paris, 1835 It was probably then, after he was forty years of age, that he discovered and described this disease. The fluid contained in the vesicles, which vary in number and size, is usually colorless, though sometimes reddish and is albuminous in character. The life of the embryo is destroyed from inanition, and being so small the body is dissolved and disappears. Another disease of the villi is due to obliteration of the canal into the villus, producing an atrophic condition exactly opposite to the dropsical. As no circulation occurs into these villi, they very soon undergo fatty degeneration, giving the ovum a fibrous or opaque surface, quite unlike its normal appearance, and constitutes what is familiarly known as a blighted ovum, with the embryo often dissolved as in the hydatiform variety. If but a small portion of the villi are diseased in this way the fœtus may go on to maturity, when these fatty villi may be seen as small isolated cotyledons around the periphery of the placenta, which itself may be healthy over almost its entire surface. I

had the pleasure of examining a specimen of this kind some months ago. There were a number of these fatty degenerate masses just outside the margin of an otherwise well-developed placenta. Calcareous degeneration had begun in the placenta itself, so that the entire surface was gritty as though sprinkled with coarse sand, but the child was lively and strong.

The point to be made is that two opposite conditions appearing in early chorionic life are sure, if extensive, to destroy the embryo, and in proportion as the placenta is infringed by the fibro-fatty condition, to that extent the life of the fœtus is endangered, but that of the mother is not affected.

This condition is difficult or impossible to diagnose, as all authors agree; it may, however, recur in the same patient, when a feebleness or failure of fœtal movement—after having been once established—might indicate a recurrence of the former lesion.

By a rupture of some utero-placental vessel, blood may be diffused between the decidua and the chorion, thus compressing the entire villi and destroying the embryo, which may be dissolved before the expulsion of the ovum. A very interesting case of this kind came under my observation in the anatomical room of our college, hæmorrhage evidently having been the cause of death, the ovum still being intact. Later in gestation hæmorrhages may be confined to the placenta, and are dangerous in proportion to their extent; any considerable amount destroying the life of the child. Women once affected by this condition are apt to suffer recurrences at subsequent pregnancies.

Dropsy, atrophy with fatty or fibrous degeneration and hæmorrhage, seem to menace the ovum in its embryonic stage, as the grub menaces the root of the young plant, each and all of them being as destructive to the embryo as the grub to the plant, but we search in vain for authentic causes of these various enemies of the ovum, or for any sure means of preventing them. Syphilis, probably more than all other plagues, makes its destructive mark upon the placenta. If the mother be affected before pregnancy, the decidua and placenta show gummatous growths and proliferation of the connective tissue of the villi occurs, which finally obliterates the blood-vessels. Placenta and cord finally become impervious by reason of the vessels and sinuses being encroached upon, and the fœtus dies from lack of nutrition. The placenta and cord tell their own story, while the dead fœtus is a sad commentary upon this monstrous enemy to fœtal existence. Whether any remote syphil-

itic strain handed down from a forgotten source may not be responsible for much "non-specific" placental or chorionic disease is not known, and I find no reference to such possible origin, but suspect that such may be the case.

Finally, to return to the vegetable kingdom for a simile, if the seed be imperfect, no variety of soil will overcome the imperfection enough to produce perfect plants, so though the uterine decidua be healthful and the ovum normal, vivification by imperfect material will result in a blight which will be likely to follow one or another of the forms already mentioned, while other things being normal, an unhealthy decidua would produce similar results. Three elements, then, are necessary to produce perfect placentas—a healthy decidua, perfect ova, and normal spermatozoa. Either one wanting, a blight early or late results; if early, the chorionic villi are destroyed and the true fœtal placenta is never reached; if late, a morbid placenta, with a diseased or dead child, pays the penalty.

Can anything be done to overcome placental diseases? No haphazard treatment will remove causes rooted deep enough to again and again destroy the product of conception, but believers in our law of cure, by faithful study and careful application of the law upon their patients, may, without doubt, in time improve the decidual membrane, help the ovaries to better products, and, not forgetting that the father ofttimes needs treatment as well as the mother, give tone to the vivifying principle. All three being correct, diseases of the placenta within our ranks should become practically unknown. Then, and not until then, will the slaughter of the innocent due to placental diseases come to an end.

Discussion.

Sheldon Leavitt, M.D., Chicago, Ill.: This paper is not calculated to awaken much discussion, although I regard it as a most excellent one. There is a suggestion here as to maternal impressions which we might follow and profit by, but I do not feel competent to discuss it. It is true that there has been discovered no nerve connection between the mother and fœtus, but I have no doubt that in some unexplained way the thought of the mother is impressed upon that in-dwelling child. There is a suggestion which may be overlooked in regard to the possibility of the single cotyledon outside the placenta as ordinarily formed, which is really a secondary or supernumerary placenta. It is clinically interesting in that, while we may remove the bulk of the placenta, we are liable to leave undelivered this cotyledon, which has but slight attachment to the placenta. The only instance I ever ran across in my own practice occurred some two years ago, and I confess in

deep humility that I was guilty of doing the very same thing others have done—I left it behind. I thought I had examined the placenta with usual care, and yet, a few days after delivery, the woman had a sudden and profuse hæmorrhage. I went to her as rapidly as possible, only to find that the hæmorrhage had ceased, and the nurse took me aside and showed me one of those offending cotyledons. If we bear the fact of its existence in mind we shall be less likely to leave it *in utero*.

G. W. Bowen, M.D., Ft. Wayne, Ind.: I have never had a case of retained placenta in the last fifteen years, or any trouble of that kind. Before that time I frequently met these cases. Fifteen years ago I got, through Grauvogl, a statement which is certainly correct. China cuts off the flow of blood through the placenta, and you will never meet with a case of retained placenta if you will try it. I give a dose a day and never have a retained or adherent placenta. I give a dose a day for three days before the expected confinement.

Question.—Would the doctor be afraid of giving China earlier in the pregnancy for fear of cutting off the blood-supply of the placenta? Also, how does he determine positively the day of the confinement in advance?

Dr. Bowen: I believe it would produce an abortion, and should not dare give it. As to the second question, you have positive signs at least twenty-four hours before. Take the settling down of the uterus. The women date from the last menstruation. Milk in the breasts. Then the patient will generally have diarrhœa twenty-four to forty-eight hours before labor. She will have two or three extra movements of the bowels. And in addition, if it is the first confinement, and the patient is fairly healthy, in eight cases out of ten she *will* be confined *either Thursday* or *Sunday;* this can be relied upon.

Shoulder Presentations, with Report of a Case.

By George E. Percy, M.D., Salem, Mass.

The indifference of our English medical ancestors to practical midwifery was responsible for the establishment of numerous practices in obstetrics, which can be accounted for in no other way than that they were evolved from unwilling minds dealing with most distasteful problems. As late as 1843 the Fellows of the College of Surgeons, of England, denied the right of admission to the Counsel of the College to those who practiced the base art of midwifery, which was stigmatized as an art foreign to the habits of gentlemen of enlarged academic education. To the average practitioner of to-day, whose privilege it is to care for this previously neglected branch of medicine, such a conception of the duties involved in accouchement is as inconceivable as it was brutal, and we cannot wonder at the high rate of mortality (needless sacrifice of mothers and children) that will ever remain a blot upon the record of medical history, when we realize that the management of this high function was considered beneath the dignity of the practicing physician.

That the art of midwifery suffered materially for want of thoughtful application of the laws of physics and physiology finds abundant proof in the radical change made in obstetrical operations within the last decade, and none more manifestly than in the management of transverse or shoulder presentations.

Podalic version seemed to be the first and dominating thought of the older accoucheurs, even before the membranes had ruptured and while the child is yet freely movable, a proceeding which, in the light of recent progress, is rarely resorted to, and, it can be safely said, with a more flattering record of successful deliveries.

The infrequency of transverse presentations renders it quite impossible for physicians in private practice to confirm the superiority of any course of interference, since statistics show that only about once in 260 births does the shoulder present; it is, therefore, only at long intervals that we are confronted with this complication, and then we are prone to resort to old and tried methods rather than to assume the seeming risk of a more reasonable course of less antiquity.

The fœtus floating in the amniotic fluid, subject to the laws of gravity, in the great majority of cases, presents head down, but from various supposed causes: Polyhydramnion; disproportionate lightness of the head, as in acephalic or hydrocephalic monsters; smallness of the fœtus; death of the fœtus; irregular form of the womb, and relaxation of its walls as well as abdominal flaccidity; transverse positions obtain; the head in either iliac region, more commonly face back; the breach on the opposite side above the ilium, and the shoulder at the os. We have then, roughly speaking, the head, the shoulder and breach, each at the angle of a right-angle spherical triangle, the presenting shoulder corresponding to the right-angle, the head and breach to the other two. If we were required to remove a body of this shape from an inverted rubber-bag, corresponding in shape to the uterus, we could easily succeed by making a fulcrum of the shoulder, upon which we would make upward pressure, at the same time, with the other hand, using the more acute angle, representing the breach, as a lever to force the lower angle into the orifice; in this way, by alternately pushing upward and inward on the lever, and toward the medium line upon the lower angle, with the hand outside, we would succeed in the operation with the least possible danger of injury to the body to be removed. Unfortunately, conditions are not always favorable for such manipulations in the lying-in chamber, for a firmly contracting uterus, rigid abdominal walls, and absence of the liquor amnii, with a shoulder wedged in the pelvis, make it much more difficult to apply these principles, while they are, nevertheless, as truly applicable. The most important obstacle to overcome is rigidity of structures, inhibiting the free mobility of the fœtus, and this we can frequently accomplish by due consideration to the position of the mother. I believe that the position should be varied to suit the various relations of the child within the uterus; for instance, when the head is in the left iliac the patient should be turned to the left, well over on to the chest and abdomen, the thighs well flexed. The genu-pectoral position, which has had several strong advocates, is unquestionably a good one, providing the patient is not too weak to maintain it.

Dr. Edward F. Wells, of Indiana, says of the knee-chest position: "With the parturient woman in this position, the abdomen is relaxed to the greatest possible extent, and the pains are less powerfully expulsive, the uterus is lengthened in its long and shortened in its transverse diameter, and the impacted shoulder is drawn

away from the pelvic brim by the force of gravity. Correction of the malpresentation is greatly facilitated by the shape of the uterus and the ease with which any operative manipulations may be carried out."

While there may be a degree of optimism in thus summarizing the advantages offered by the application of the law of gravity to the malposed fœtus, there is certainly sufficient truth in it to merit a test, and the fact that so experienced an obstetrician as "Churchill" records a mortality of 11.1 per cent. in mothers and 52.1 in children would certainly justify our departure from older methods. In the beginning of labor, while the membranes are intact and before the pains have become severe, a transverse position of the fœtus might be, with comparative ease, converted into a cephalic presentation, by external manipulation, while the patient is in the genu-pectoral position, but when, as frequently happens, our summons come late, and we find the membranes long since ruptured, the shoulder firmly wedged into the pelvis with an arm or hand protruding from the os, our patient in a highly excited and, perhaps, exhausted condition, from the infrequent and agonizing pains, then it becomes imperatively necessary to avail ourselves of every possible mechanical and physical aid, which, if well directed, will enable us, in a large proportion of cases, even under such unfavorable conditions, to engage the head and terminate labor in the normal way.

In order to avail ourselves of the advantages of posture it is necessary that a careful diagnosis be made as to the presentation offered. There are certain symptoms noticed in the beginning of labor which should arouse suspicion of shoulder presentation, notably the gradual onset of pains coming on insidiously and less frequently than the pains in the first stage of natural labor; the high position of the os uteri and absence of presenting part. On inspecting the abdomen the obliquely transverse oval is apparent at once, and by palpation the hard-resisting tumor, the head, is found at one extremity of the oval, and the more yielding prominence, the breach, at the other. Passing the hand along the upper margin of the tumor a well-defined convexity with distinct resistance indicates the back of the fœtus, while an irregularly concaved surface with non-resistance shows the abdomen of the fœtus to the anterior. Having ascertained the relative positions of the head and breach, and whether the back or the abdomen of the child is to the front, either of the four transverse presentations of the shoulder

birth can be readily determined. Thus, if the head is in the left illiac, back of the fœtus to the front, the right shoulder is presenting. The head in the right illiac region, back of the fœtus to the front, the left shoulder is presenting.

When we have thus determined the position of these three points, head, shoulder and breach, bearing in mind the fact that the outline of the fœtus corresponds roughly to the right-angled spherical triangle, it would seem reasonable to so alter the position of the patient that the uppermost part of the fœtus, the long angle, shall by its own weight incline toward the perpendicular bisecting the right angle at the os. By raising the hips and turning the patient well over to the sides corresponding to the fœtal head, such a result is favored, and if this is supplemented by supporting the head of the child, the relief to the unnatural lateral distension of the uterus will do much to avert that dread complication, tetanic spasm.

The fact that flexing the thighs relaxes the muscles of the abdomen is too well known to deserve more than mention, but I doubt if the simple procedure is resorted to in obstetrical work as much as it deserves to be, when the pains are irregular and ineffectual and it is desired to lessen their force.

Under these conditions, the favorable posture and relaxation of the abdominal walls, it would seem that nature had the best possible chance to remedy the faulty position of the child by spontaneous version. Dr. M. D. Wright was the first to call attention to the advantages offered by cephalic over podalic version. His method has been practiced successfully in a great many instances during the past few years.

Following is a brief history of a case taken from my note-book:

Mrs. A. T.; 35 years of age; mother of two children; labors were both normal; vertex presentation; well developed children. Was called December 27th, 4 A.M.; patient having been in labor since preceding day. The nurse informed me that the pains had come on very gradually, the intervals between the pains were longer than she had ever noticed in natural labor. The membranes had ruptured during the night, and the patient was in a very highly excited condition, utterly wanting in the courage she had evinced in previous labors, being apprehensive to a degree which defied all efforts to dissipate. The uterus was firmly contracted, revealing on inspection a well-outlined obliquely transverse tumor, the head in the right iliac fossa, and the back to the front. The pains were fast becoming more frequent and their intensity more marked, their force

being fully appreciated by placing the hand over the head and noting the strain upon the intervening structures. On digital examination I found the left shoulder firmly impacted at the pelvic opening, cervix well dilated. The patient on the back, the pains came with such frequency that it seemed to be almost a continuous spasm of the uterine and abdominal muscles, and any attempt to change the position of the fœtus by external manipulation was absolutely futile. By turning the patient upon the right side and flexing the thighs, I found there was a perceptible change in the frequency of the pains and a considerable relief to the patient. In this position, introducing the right hand within the vagina, I found it was possible, by pressing the breach toward the median line and alternately the head toward the pelvic opening, to effect a decided change in the position of the fœtus. By continuing these manipulations in the intervals of the pains by slow degrees the head finally came within reach of the examining finger, and by firm and constant pressure upon the breach, now in the median line well above the umbilicus, the head finally became engaged and the labor was terminated in less than thirty minutes, the presentation being the right oblique occipto-anterior. The child weighed about eight pounds, and while it showed the effect of the severe pressure to which it had been exposed, it soon regained its vitality, apparently none the worse for its exposure to the dangers attending transverse presentation.

I think it will be conceded that the prognosis in this case at the time of my summons was not altogether favorable, for we had to contend with the exhausted condition of the patient, the absence of the amniotic fluid, a condition bordering upon tetanic spasm of the uterus, a firmly-impacted shoulder and a living fœtus of large size. Had podalic version been attempted in this emergency it would have been well nigh impossible to have succeeded without danger of rupture of the uterus.

In concluding these brief remarks, which I have been prompted to offer with the hope of affording a little courage to those who are called upon to assume the responsibility of these happily infrequent cases of shoulder presentation, I would urge:

1. Early inspection.
2. Careful diagnosis of the position of the fœtus.
3. Cephalic version by external manipulation while the membranes are yet intact, with the application of a firmly-applied abdominal bandage to maintain the position and assist labor.

4. When the membranes are ruptured and the shoulder is firmly engaged; turning the patient to the side corresponding to the fœtal head, the thighs well flexed, and the combined manipulation upwards upon the shoulder with the examining finger, and alternate pressure upon the breach toward the perpendicular bisecting the right angle at the os and upon the head toward the pelvic opening until the head is felt at the os, when the abdominal bandage should be adjusted firmly until the case is terminated.

Discussion.

G. W. Bowen, M.D., Ft. Wayne, Ind.: Three times have I found a radical change of position of the child *in utero* before the membranes ruptured. It is claimed that it takes place under Pulsatilla; this was verified by Dr. J. H. Smith, of Chicago. I had already verified it myself. Not until after the third pain had passed could I tell that the uterus had not ruptured. I rely on Pulsatilla as giving a normal position.

Sheldon Leavitt, M.D., Chicago, Ill.: In these cases I should perform version. The genu-pectoral position is spoken of as favorable. It is a good position and brings to bear the force of gravity. The great obstacle in performing version lies in the firm pressure of the presenting parts at the pelvic brim. They are tightly held there, partly by the force of the contracting uterus, but that is increased by the force of gravity. In version we must dislodge the part from the pelvic brim, and change the character of the presenting part. I regard the Trendelenburg position as better than the knee-chest position. We may improvise means for securing it by using an inverted chair, on the bed or the floor, bringing the hips of the woman on this inclined plane and maintaining the posture by means of assistants. By this means the weight of the child is carried away from the pelvic brim. I have used this position in a few cases where it was necessary to perform intra-uterine manipulation, and have found it very satisfactory. The advantage over the knee-chest position lies in the easier manipulation of the abdomen. In the knee-chest position it is pretty difficult to work on the pendulous abdomen. With the woman on her back, and the hips elevated, we may work to far better advantage and with the same ease as if she were in the horizontal position.

My First Obstetrical Experience.

By A. M. Duffield, M.D., Huntsville, Ala.

During the vacation preceding my last year in college, while substituting for a physician near Boston, I was called to the following case, which was my first obstetrical experience:

Miss S., aged 19, of very spare build and not attractive appearance, declared under oath that she had been waylaid, chloroformed and impregnated while in that condition. Her parents believed the statement to be true, she having come home in a dazed and disheveled condition, etc. I was first called to see her on June 16, 1884, she having passed a bad night. Severe pains down spine and low down in back across hips; also complained of dizziness, with spots before eyes. Had to be rubbed a long time to keep up circulation; said her heart almost stopped beating during the night. Pulse 62. Extremities warm, body cold and hard to keep warm. Some œdema of ankles. Urine dark and bloody. Gave Digitalis 9x every hour for the weak heart action. Examined two specimens of urine and found albumin and blood, also phosphates. Slight acid reaction; sp. gr. 1092. Went to see her and found her much more comfortable; the heart's action improved very much. Slept well all night. Stopped the Digitalis.

Called about 8 A M.; found patient resting comparatively easy. Made a digital examination, but could detect nothing wrong. As I was about to leave the house she went into a violent convulsion, turning dark purple even to the ends of the fingers and toes; every muscle in the body was jerking, eyes rolling about with a wild, staring expression, becoming bloodshot. The mouth worked convulsively, and bloody foam issued from it in quantities. Her body was so agitated as to forcibly shake the bed, and it required force to keep her on it. I gave her Veratrum vir. in three-drop doses (as I had been told to do in case of such an emergency), but it availed nothing; the only relief seemed to be by forcibly massaging the limbs, spatting and deep rubbing, which promoted the circulation. This state lasted nearly half an hour, when she came to as if from a horrible dream, and the moment she recognized those about her she went off into another spasm just as bad. I sent for assist-

ance, which I received at the hands of a very prominent allopathist and his assistant.

When they arrived she was just recovering from the third attack, and immediately went into another (after opening her eyes and looking about a few seconds). This was over an hour from the first attack, there having been no interval of over a minute between them.

At my suggestion, my consultant applied the long forceps, high up, and delivered the child with my assistance. Ether having been administered by the assistant [the doctor insisted on letting the patient lie lengthwise of the bed (which was contrary to my instructions), he getting up on the bed with his knees and delivering her while in that position].

The child was apparently dead, which my consultant claimed to be the case. I tied the cord, however, for sake of practice, and put the supposed corpse to one side, and attended to the mother. The consulting physician kindly adjusted the binder to the mother, and took his departure with his assistant, after assuring me that all was right. I thought she was flowing too freely, but he said not, and I supposed that settled it. However, in a short time I looked and thought that there was too much hæmorrhage, and gave Ipecac 9x every fifteen minutes, which arrested it a little. This was about noon. She had been in the eclampsia about two hours before she was delivered, and remained under the influence of the anæsthetic until late in the afternoon.

Shortly after the departure of the other physicians I was startled by a noise from the baby, which had been allowed to lie unattended since its advent into the world; there was a little blood oozing from her ear, which soon stopped, however. The baby was soon made to cry vigorously, and is alive now as far as I am aware.

Previous to delivery 1-60 grain of Atropine had been given her hypodermically by Dr. G., and I had dilated the os to about the size of a silver half dollar and ruptured the membranes.

He had considerable difficulty in applying the forceps, which I thought was due to the position she was in. He removed the placenta and membranes right after delivery was accomplished, and directed that Ergot in teaspoonful doses be given her, which was done a few times, but with no apparent effect in lessening the hæmorrhage mentioned above.

I worked hard for several hours, kneading the uterus through the abdomen every time it would get soft and begin to flow much, and

did not leave her side. About 1 A.M. I decided to use extreme measures, which I had to do alone, as the other doctors were nearly two miles distant and it was midnight.

After starting the Ether again, I had to force her father to hold the cone to her face, while I cleaned out the vagina and uterine cavity of a washbasinful of clots and fluid blood. The examination revealed a badly lacerated cervix, which was torn into strips like fingers, and the perinæum was lacerated to the anus. The uterus was in an atonic state and bleeding very freely. After using very hot water as an inter-uterine douche without avail, I used my fingers to stroke the interior of that organ, whilst cold water was poured from a height on the abdomen, but this failed also. Finally I secured a lump of ice and introduced it into the uterine cavity and stroked it with that inside, whilst I kneaded and stroked the abdomen with cold water externally. This caused some contraction, and by leaving the ice *in situ* and applying a cold compress to the abdomen under the binder, complete contraction was secured and the hæmorrhage stopped for good. I then gave Ergot in twenty-drop doses every three hours, and Aconite 1x in water and Arnica in water, one teaspoonful every fifteen minutes alternately. I remained by her side until morning, to see that her uterus kept properly contracted. Did not dare to leave her until 5 A.M. Temperature 99⅘° at this time. Continued Acon. and Arn. alternately, and was very comfortable, except a great deal of soreness.

5.30 P.M. Temperature 101°; no flow; douched out vagina and ordered cold compresses to abdomen; changed bed. Passed urine all right.

11.30 P.M. Temperature 99⅘. Very comfortable.

Temperature 100⅘; pulse 96; changed to other side of bed and allowed her to lie on her side a little while, which rested her, but made her feel dizzy when turned back. Douched out cavity, and this relieved her considerably; used carbolized Calendula douche. Diet consisted of milk, gruel and broma.

Temperature 99⅕; pulse 76. Is doing nicely. Continued douches, using Permanganate of potash in place of Carbolic acid. She had considerable trouble from a recurrent retroversion of uterus, but was able to sit up on the tenth day, and made a good recovery.

The physician who assisted me on the first day never called again, but openly congratulated me on the recovery of my patient, as he claimed to have had six cases of puerperal eclampsia, none of whom were as bad as mine, and he had lost them all.

REPORT

OF THE

SECTION IN SANITARY SCIENCE.

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Sectional Address.

By Sarah J. Millsop, M.D., Bowling Green, Ky.

Of course, it is to be expected that the writer of an address on sanitary science will begin by claiming that of all departments of science or medicine none is so important as this one of preventive medicine. It should even take precedence of materia medica; for

surely if hygiene and sanitation were understood and practiced as they should be, there would be little need for the giving of medicines or for the practice of medicine in any of its branches.

The science and art of obstetrics would, perhaps, be the only other necessary branch; and on the programmes of medical societies it should be given special consideration, instead of being appointed for the same hour as this most important of subjects, the prevention of disease.

In this day there are but few questions, aside from politics, which receive the same degree of absorbing interest that is given to prophylaxis—the prevention of epidemics—the best-known means of keeping well. While the art of healing is justly considered one of the noblest callings a man or woman can follow, it is more noble still to prevent disease, with its attendant suffering, anxiety and possible death.

In reading medical and hygienic journals I have noticed in the last few years that in the older school the tendency is to give little or no medicine. For their cures they rely more and more upon hygienic living, food, drink and sleep, proper exercise, suitable clothing, the intelligent use of water, electricity, massage, etc.

At the Pan-American Congress held in Washington a few years ago, a most prominent place was given to the report of the section of hygiene; some of the ablest men in attendance read papers and participated in the discussions. At that meeting the medical director of the United States Navy gave voice to the following true and poetic sentiment: "Time was, and that no long time ago, when Hygiea, the Cinderella of the medical family, slunk unnoticed among menials; now she graces the salon; her proud sisters caress her and suitors court her favor. . . . . The ascendancy of hygiene has greatened and glorified medicine without dimming the lustre of any other branch."

At a meeting of the American Public Sanitary Association another prominent man said: "At present we do not pretend to combat acute infectious diseases with the old confused methods. We know that we are impotent to attack the malady directly, but we can struggle against it with better success by confining ourselves to carry out the indications for the time being and hold up the strength of the patient, surrounding him with all the cares that hygiene counsels, so as to aid the organism in its struggle against an unknown enemy, or at least one we can hardly perceive. By adopting this modest position, rather than employing an active but blind

therapeutic one, we are enabled to snatch more victims from death." He added that statistics would bear him out in this assertion.

Even with our own more satisfactory and successful system of therapeutics we must confess that prevention is better than any method of cure.

The proper observance of hygiene and sanitation is important, not only in preventing disease, but in shortening its course and bringing patients through to more successful recovery.

In far off, and medically benighted, India, members of the dominant school are awakening to the fact that the hygienic care of patients may give better results than their former antiquated method of medical treatment.

At a recent meeting of the Calcutta Medical Society a good share of the time was devoted to the discussion of dietetics; one speaker referred to the "Kabiraj," or Homœopath, who had invaded that country, and admitted that his success had been greater than their own in treating disorders of the alimentary canal. This he attributed to the Homœopath's better knowledge of dietetics rather than to the "indifferent medicines" he prescribed.

A noted physician, Dr. Pye-Smith, in an address before the Hunterian Society of London on "Rational Medicine," placed in the foreground prophylaxis and sanitation with all these terms imply. He regards such measures as "eminently rational," which is certainly most rational talk on the part of this great man.

The laity, even more than the medical profession, are beginning to realize that prevention is far better than cure. The people demand that they be preserved from the ravages of epidemics. Now, instead of accepting plagues as a visitation from Providence, they begin to clean up and disinfect. They want to be taught the most efficient means of preventing the spread of contagious and infectious diseases when they do appear in a city, town or family.

Professional and business men say: "Tell us how to keep well; we cannot afford the time to be sick."

Where large business or professional interests are at stake men would rather pay their physicians to keep them well than to pay for medicine. Fathers have said during the serious illness of a well-loved child: "Doctor, this anxiety is terrible, I am unfitted for business. What salary will you take to keep my family from getting sick?" In time we may become as wise a people as the "Heathen Chinese."

While some persons may object to laws passed by states, muni-

cipal councils or health boards, considering that they are arbitrary, and that their free-born rights are infringed upon, they will receive thankfully and carry out faithfully any sanitary or hygienic suggestions given by their trusted family physician. Mothers especially are apt pupils when danger threatens their loved ones. If a case of typhoid fever shows itself in the family, and there is a doubt as to the purity of the drinking water, only a hint is necessary to have the daily water supply boiled. Neither will the mother forget to have the stools disinfected, and, if necessary, a deep pit dug in which to bury them.

Where a case of pulmonary tuberculosis occurs in a family it need only be mentioned that the sputum, with all rags or papers used, should be burned. So it is all through with bathing, feeding, ventilating, etc.

Physicians should be real missionaries in teaching their patrons all these things.

If, as statistics tell us, more than 40 per cent. of all deaths are caused by infectious diseases, which are preventable, then we as physicians and teachers cannot hold ourselves blameless. When hygienic living is better understood and practiced by the masses it is to be hoped that fifteen million dollars worth of patent nostrums will not be consumed annually, as now.

But in order to impart this information intelligently physicians must themselves be thoroughly taught. Those who have been so unfortunate as not to have received instruction in sanitation and hygiene in their college course, and who have felt no especial interest in these subjects, would derive both pleasure and profit from reading some of the excellent hygienic and dietetic journals now published.

In my opinion the department of sanitation and hygiene should be one of the most prominent in the curriculum of a medical school. It should be taught first, last and all the time, instead of being placed only in the first or second year's course.

It was with much interest that I heard, at a meeting of this section last year, the suggestion that a syllabus be prepared for teaching sanitary science in our medical schools.

While we may have some good text-books on this subject, I think something more interesting to the students might be arranged, and so attractively presented as to impress their minds with the importance of this real live subject.

While there has been a general increase of interest in prophylaxis

and sanitation all along the line during the past year, and laws have been enacted by boards of health and municipal bodies looking to the better enforcement of sanitation, probably nowhere has there been greater progress in this line than in this great state of Michigan. Dr. Stevens, in his paper, will tell us something of this work.

It has been with great satisfaction that I have noted the efforts made by both health officers and individual organizations to put a stop to that most disgusting and injurious habit of expectorating in public places.

The health boards of some of the larger cities, notably Philadelphia, Pittsburg, New York and St. Louis, have had signs posted in passenger cars and other public places forbidding spitting on the floors. The St. Louis "board" has recommended to the city council the adoption of an ordinance making it a misdemeanor to spit on the floor in public places, and asked that numerous cuspidors be provided and cleaned in a sanitary manner. Many private manufacturing establishments and railroad corporations have had similar notices posted in their cars and shops.

In many cities the intelligent women, tired of waiting for physicians, boards of health or other municipal bodies to take active measures in this reform, have taken the work into their own hands. They have organized crusades against this noxious habit of public spitting, and it has been mainly through their efforts that many business firms have put up notices forbidding spitting on floors.

Ladies who live in New York City say nothing more disgusting and nauseating can be conceived of than the mass of sputum to be seen on the sidewalks in the morning. They wonder if a law can not be framed which would compel men to step to the gutter if they must expectorate.

No more important measure for preventing the spread of infectious diseases can be enforced than to stop indiscriminate spitting in public places.

Now that the women have taken hold of the reform the spitting nuisance is doomed, for whatever the women undertake in real earnest is sure to succeed. They don't know the meaning of the word defeat.

Dr. Goff makes mention of impure milk as one great factor in the spread of contagious and infectious diseases. This is unquestionably true, as many epidemics of typhoid fever, diphtheria and other diseases have been traced to contaminated milk, both in this country and Europe. Numerous cases of tuberculosis, especially in the young, are undoubtedly conveyed in the milk.

In most large cities there is a sanitary inspection of the milk supply; while in several states officials are appointed to inspect herds and to destroy tubercular cows. There is also in some states what is equally important, a supervision of the dairy and of the persons employed to handle the milk and care for the cows. The feeding of dairy stock is also receiving much attention. But in small towns and villages, and in country places, these laws are not enforced by local health boards or state officials. The inhabitants are left to the care of a merciful Providence to protect them from tubercular beef and milk.

We all feel an interest in what Dr. Hall has to say on "The Better Disposal of Sewage and Garbage Than the Methods Now in Use." Certainly, in many cities and towns there is a crying need for reform in this direction. My own opinion has long been that sewage should be cremated. I am not even enough of a political economist to care whether or not it be utilized as a fertilizer. I can conceive of nothing more heathenish in a civilized country than to turn sewage, containing animal excrement, into a stream or body of water where there is a possibility of its being used for household purposes, or from which ice may be gathered. The silent bivalve and every member of the finny tribe would cry out in protest, if they could, against this loathsome despoiling of their domains.

Those who have not lived in the South, or her borders, cannot realize the terror which strikes to the hearts of the Southern people when an epidemic of yellow fever breaks out in their midst. The inhabitants of any city or town will flee on its approach, deserting every financial interest. As a medical body we should hail with delight and gratitude any measure that will prevent the spread of this disease. Dr. Stout will tell us of the means used both by sanitation and quarantine to prevent the spread of yellow fever.

It may be thought that I am not competent to give an opinion on the subject of water, coming as I do from the state of Kentucky. But, however little water I may use myself, I consider it a most excellent beverage for others. The one stipulation I make in recommending it is that it shall be pure. Ah! there is the rub. To obtain pure water is not an easy matter.

It would seem as if there should be no difficulty in obtaining a pure supply of this element which nature has furnished so bountifully. But when we think of the thousands who have departed this life, prematurely, from infection conveyed to them in water, we then realize what a deadly agent it may become.

My first plea to insure the purity of water is, that no sewage or

refuse from slaughter houses or manufactories of any kind be allowed to pollute rivers or bodies of water used for potable purposes. My second is that reliable public filters be provided, so that the water shall be furnished as free as possible from impurities to the consumers. It was my intention to have had for this section an able paper on public and private filters, but the doctor who was to have presented this subject was unavoidably detained at home.

So far as my own investigations go, I find that private filters are not reliable. If a good one is procured it is likely to get out of order. Some persons cannot afford to purchase; others neglect to do so, or do not realize the need of such a safeguard, so it stands to reason that the only sure way of protecting the public is to have the water filtered by the company or city who furnishes it to consumers, and who receive pay for furnishing a pure water.

I notice in sanitary journals many methods described for filtering water on a large scale. While there may be considerable expense attached to the process, it would not cost more in the long run than a few funerals each month or year. I speak with feeling on this subject, as I live in a small city in which we have typhoid always with us. The water for which we pay contains not only pathogenic germs, but after every hard rain it is of the consistency of mud almost.

I am rejoiced to know that one water company has been indicted for manslaughter, a death from typhoid fever having been contracted from water delivered by that company through its mains. If all deaths from impure water were charged up to the true cause we would soon cease to hear the expense of filters given as an excuse for not providing them.

The widespread prevalence of diphtheria during the past autumn and winter has called forth the most earnest discussion as to the best means for both its cure and prevention. Antitoxine seems still to be in favor, both in this country and in Europe. If it can be satisfactorily proved that Antitoxine is "an absolute preventive of diphtheria," as some claim, it will be of far greater value than as a curative agent. But in order to prove this long experience will be required; and, as one writer said, "Tests must be made in the light of comparative statistics, with accurate microscopical examinations of the deposit in the throat." Then, too, we need to be assured that there is no danger in its use, as there proved to be recently in a notable case in Berlin. In the meantime let us use every prophylactic measure included in perfect sanitation and hygienic living.

Anti-typhoid serum and the treatment of syphilis by anti-syphilitic Antitoxine seem to be the latest addition to serum-therapy; but as yet sufficient evidence has not been collected to prove the value of these methods of cure.

Nothing which has been advanced during the past year pertaining to neurasthenia has exceeded in interest the views of our own Dr. Talcott on early rising as a cause of insanity among farmers and their families. I have never been an advocate of early rising for either adults or children; and I have often been made to feel that I had committed one of the deadly sins by my precept and example in this direction. Now I am glad to find myself in such good company. If I may be allowed to supplement the views of this distinguished alienist, I would offer the suggestion that it is not early rising alone which is conducive to neurasthenia and insanity, but the steady "grind" of work is also a factor. With many farmers' wives it is work, work from morning until night. They even invent work when the regular work is done. Instead of sitting down to an interesting book, or taking a needed sleep, they begin to sew on their "crazy" patchwork.

We seldom hear of the colored women having neurasthenia or becoming insane. As a rule, they are happy and jolly, and will spend their last dime to go to "a show!" They don't work all the time. Indeed, many of them who live out take a vacation during the entire summer months, subsisting mainly on berries and watermelons. They even make a regular picnic of solemn occasions, as baptizings and funerals. As for their ability to sleep, nothing equals it. Let a darkey, old or young, sit down for a few minutes any time, day or night, and he is sound asleep.

What is so restful and refreshing to an irritable baby, or to the worn body and nerves of the mother, as a good sleep?

In my opinion, one chief benefit derived from an ocean voyage or stay at the seashore or mountains comes from indulging in the luxury of the sleepiness that often overpowers one from the change of air and scene. So beneficial have I found sleep when brain and body have been overtaxed that I have often felt like exclaiming with Sancho Panza, "God bless the man who first invented sleep."

The State Control of Sanitation.

By Rollin H. Stevens, M.D., Detroit, Mich.

Men have long sought for the "Philosopher's Stone" and the "Elixir of Life," which would give them long life and perpetual youth; but their search has always been in vain. We have always had old age and death, disease and suffering, and we probably always shall have them; but the signs of the times point to less and less of illness and pain, and there may yet come an epoch in the history of the world when death will come only as a result of accident or old age, when disease will have no meaning to mankind. That epoch, however, should it ever come, will be a long way in the future; but we take much courage when we learn from Secretary Baker of the Michigan State Board of Health that that board is saving every day of its existence three lives from the ravages of only three contagious diseases, and that the relative number of cases of sickness from these diseases is decreasing very materially every year. This is due to the work of the State Board of Health in educating the people, and organizing and assisting local boards of health to enforce rules and regulations where advice and education are insufficient. Some one has well said that organization is the breath to the life of sanitary progress.

Men are now beginning to understand that the prevention of disease is of far more importance to the health and happiness of the race than the everlasting dosing for ills, real or imaginary. They are beginning to realize the force of Charles Dickens's remark, that it concerns a man more to know the risk of the fifty illnesses that may throw him on his back than the possible date of the one death that must come. We must have a list of killed and of the wounded too.

Heretofore the government has expended large sums annually in maintaining life-saving stations all along our coasts—a very worthy object—but the number of lives saved by these stations is very insignificant when compared with the work of a good state board of health, and yet some of the states have no state board of health, while many of those that have are continually crippling them by insufficient appropriations, or threatening them with abolition.

Many unscrupulous or ignorant politicians do not care enough or know enough to appreciate the actual value in dollars and cents of the work accomplished by sanitarians, to say nothing of the great saving of suffering and of human life. Such is the case in New York, where the legislature at its last session refused to make any appropriation for continuing the work of dairy inspection and the stamping out of tuberculosis in cattle. Georgia has a law creating a board of health, but the politicians will give them no appropriation, consequently there is no board of health.

All the states except Georgia, Idaho, Montana, Oregon and Wyoming now have state health service. Of these all have state health boards except Alabama, Dakota and Texas. Alabama has a state health office, the State Medical Association, constituting the State Board of Health. Dakota and Texas have only state health officers.

Every province in Canada and every state in the republic of Mexico has a health board, and every province and state in Canada, Mexico and the United States has provision for a local health board. Under their persistent and scientific administration we have noted the marked decline in the death-rate and positive increase of the longevity of the race.

The following is a brief summary of the work done by some of the state boards.

The New Hampshire Board of Health has given considerable attention to public and private water supplies; to the sanitation and fire escapes of summer resorts and boarding-houses. It constitutes a state board of commissioners of lunacy. It has charge of the registration of vital statistics, and in its annual report publishes papers of universal interest to the people of the state on matters of sanitation. The State Board of Cattle Commissioners has been trying to suppress bovine tuberculosis.

The system of sanitary administration in Connecticut consists of: First, the state board of health, as the highest sanitary authority, whose functions are advisory.

Second.—The county health officers, who appoint the town health officers and have supervision of all local officials of towns and cities, and who have the power of a grand juror and are authorized to enforce the laws.

Third.—The local health officers, who enact and administer the sanitary laws in their respective localities.

The results have been very satisfactory, as the town health officers

have a great deal of influence when backed by legal advice and state authority. They have organized a conference and adopted a uniform code of sanitary regulations. Thus sanitary administration in Connecticut is systematized.

The Massachusetts Board was established through the work of a woman, Dr. Plunket, a prominent sanitarian in the East. It has a large appropriation and devotes considerable time to the consideration of water-supply and sewage. At Lawrence is an experiment station for the filtration of water. The board has also worked on the purification of sewage, because the water-supply from large rivers is polluted by sewage above. In its report it gives a statement of bacterial contents of ground waters and of deep wells, the physical and chemical properties of sands, with reference to use of filters. Michigan pays little attention to water-supply and filtration, except to give advice when asked. The Massachusetts Board has a laboratory in the state house for the analysis of foods and drugs, and last year established a laboratory for preparing antitoxin; no report yet. It also devotes a large amount of time to vital statistics.

The work of the New York board is very similar to that of the Massachusetts Board. It has examined many herds of cattle with tuberculin. In Michigan this is done by the State Live Stock Commission. There is no regular appropriation for this work in Michigan, but the bills are audited by the state auditors.

Ohio has annual meetings of all health officials of the state. The board has charge of approving all public water-supplies, and all systems of sewerage with respect to outlets. From January, 1888, to April, 1894, it published a monthly bulletin.

In Illinois the State Board of Health attends largely to the regulation of the practice of medicine. It has copied after Michigan slightly, though imperfectly, in contagious disease work.

California holds annual state sanitary conventions. The board sends circulars to all school teachers, giving rules for the care of school-grounds, water-supply, school-rooms, urinals, contagious diseases, etc.

As Michigan is one of the pioneers in health work, and has perhaps done more than any of the other states in a general way to improve the sanitation of the state, a brief *résumé* of its history and of the work accomplished may not be devoid of interest.

Doubtless much of the efficiency of the Michigan Board is due to the fact that, unlike the boards of many of the other states, it

has suffered few changes in its chief officials, Dr. Baker, our very capable secretary, having held that position since the organization of the board.

The Michigan State Board was established in 1873. It is composed of six members without salary, and a salaried secretary, two members being appointed every two years by the governor and confirmed by the legislature. It meets quarterly, and also holds many special meetings. The board has little power conferred upon it, except to quarantine at ports and appoint boards of inspection. Otherwise its powers are mostly advisory. The salary of the secretary, the executive officer of the board, is $6000; the total expense of the board for stationery, supplies, printing and clerks is about $20,000.

The work of the board has consisted in the gathering of important facts and statistics from local boards, the organization and assistance of local boards (of which there are now over 1500 active in health work in the state), the education of the people in matters of sanitation by the distribution of pamphlets and by means of sanitary conventions, and in the prevention of the spread of contagious diseases.

A conference of all the health officers of the state is held annually.

Perhaps the best system of sickness statistics in the world has been built up by the Michigan Board, and the information gleaned from these statistics is very valuable. It will in the future, if adopted in all the states in this country and collected in a central, national, or international board, yield the most reliable data regarding the prevention of disease that we can now hope for. The plan of collecting them is by supplying a number of prominent physicians in every part of the state with postal cards directed to the Secretary of the State Board. On these cards is a list of the most common diseases, with spaces opposite the name of each disease where the "Order of Prevalence" and number of cases may be mentioned. The physician is expected to fill out one of these cards at the end of each week and mail it to the secretary.

Other blank forms for *final reports* are sent to the physician whenever, by official reports, newspaper items, or other sources, communicable diseases are learned to exist in any part of the state; special blanks being sent for consumption, smallpox and typhoid fever.

During an outbreak of a communicable disease special weekly reports are required.

By this system, though the exact number of cases may not be learned, the average number in a given time is found, together with the proportionate increase or decrease of the disease, and most important of all, the comparison of the increase or decrease in the number of certain diseases, with the tri-daily record of the meteorological conditions. And though this method might seem at first glance to be too inaccurate to be of value, yet it is found that during the twenty years in which this system has been in operation, there has been a constant variation in accordance with the meteorological changes. By this method it is learned that the number of cases of pneumonia increases almost exactly with the decrease of temperature, and that atmospheric conditions are the controlling causes of most of the important diseases. The migratory birds have, and act upon such knowledge. May we not hope that when a better system of sickness statistics has been established throughout the country, with our modern facilities for travelling, that man with his boasted learning may, in some measure, attain to the ancient wisdom of the birds.

Secretary Baker, in his reports, shows by statistics gathered, that four-fifths of the cases of diphtheria and scarlet fever and the deaths therefrom may be prevented by means of isolation and strict quarantine, and by the education of the people. As soon as the secretary learns of the occurrence of dangerous communicable disease, record is made in a special book, directions are sent to the health officer as to the restriction of the disease, and pamphlets on the subject are sent to the neighbors of the stricken family. At such time, more than at any other, people will learn and heed means for the prevention of the spread of such diseases. The result has been to materially lessen the ravages of these diseases, to increase confidence in the state board of health, and, through enlightened public sentiment, to make the work of the local health officer much more effective.

The record shows the saving of 100 lives a year from smallpox, 400 from scarlet fever, and 600 from diphtheria—a total of 1100 lives a year. This can be actually figured out in dollars and cents. Estimating each life at only $500.00, one-half the value of an adult slave, $40.00 as an expense of each funeral, and $20.00 as an expense of each case of sickness, then the actual expense saved to the state by the prevention of the death of these 1100 persons is $616,000.00 in return for the $20,000.00 expended by the state board. Nor does this include the money saved by the prevention of thousands of cases of sickness.

Another valuable means of educating the people has been by holding sanitary conventions in various parts of the state, as requested by the citizens. Forty-three of these conventions have been held. Papers of both local and general interest are presented; and after each convention there has been noted a marked increase of interest in sanitary work in that section of the state.

Still another plan for educating the people has been in operation during the last year. Some 20,000 sets of pamphlets were distributed among all the teachers of the state. Each teacher is required to instruct the pupils under his or her charge regarding the dangers of communicable diseases, their modes of infection and prevention.

In 1893 the Michigan Board took the lead, putting consumption on the list of dangerous communicable diseases, and endeavored to limit its ravages by means of the following measures: Physicians are requested to report all cases of consumption coming under their observation. The board then sends leaflets to the patient and neighbors, setting forth the danger of contagion, and stating that the chief source of infection is in the sputum, which becomes dry, pulverized and then carried about the air as dust for the susceptible, unsuspecting victim to take into his lungs, stomach, or some abrasion on his person, thus starting tuberculosis. Patients are instructed by means of these leaflets how to take care of the sputum, and how otherwise to prevent the spread of the disease.

It is too soon to see any great results from this method of preventing consumption. The educational effects, however, cannot but be of great value, because, in order to inaugurate any great reform, it is necessary to enlist the interest and sympathies of the people. Too little of that is done by the profession. I say it is our duty as physicians to keep the people constantly informed on all measures of sanitation, and we must secure their co-operation if we would banish disease from our homes.

Consumption, according to statistics, is constantly on the increase. More deaths occur annually in Michigan from this dread disease than from any other. From its chronic nature it causes the most suffering and it certainly can be prevented. Why then do we not prevent it? Let every state board in the Union follow the example set by Michigan, and send out leaflets where they will be read with interest, because of the prevalence of the disease. Thus the people will be educated to its dangers and to the means of its prevention.

Let every state go still further and prohibit that most disgusting and most dangerous of all habits—the spitting nuisance. Already

New York and St. Louis are taking steps to prevent this nuisance in public places, and it is high time that the laws were enacted in every state which would make the practice a criminal offence. Not only is consumption spread in this way, but so are also other dangerous diseases—diphtheria, scarlet fever, and possibly pneumonia and influenza.

Spitting is only a habit, and is not necessary, as is evidenced by the large number of men and women who do not spit. Our street and railway cars, and other public places, are more like hog-pens than places for ladies and gentlemen; and aside from the danger of disease from infection is the danger of indigestion from the nausea which follows a sojourn in one of those places, where one gets his mouth full of the dried sputum of the last year.

Owing to the fact that so large a proportion of the cases of blindness is due to ophthalmia neonatorum, a very important law was passed at the last session of the legislature. All physicians know too well how insignificant a baby's sore eyes are considered by the average mother, nurse and midwife.

The law requires that should one or both eyes of an infant become inflamed, or swollen or reddened, or should any pus or secretion form in the eye or upon the edge of the lids at any time within two weeks after birth, it shall be the duty of any midwife, nurse, or other person having charge of such infant, to report in writing, within six hours after discovery of such inflammation, such fact to the local health officer or some legally qualified practitioner of medicine. Any violation is punishable by fine of $100 or imprisonment for six months.

Of the Western States, Ohio and Michigan are the only ones having effective laws prohibiting the adulteration of food and drugs. Michigan has a Dairy and Food Commission, which has supervision of this work, differing from some of the Eastern States, in which this work is controlled by the state board of health. Inspectors are appointed to visit all parts of the state and send sealed samples of suspected articles to the state analyst, Mr. Rossman, at Lansing. Though this present law has been in operation barely one year, the number of adulterated articles has greatly decreased. Manufacturers from other states, whose goods are found in the Michigan market, unblushingly ask to have them returned, stating that they were intended for some other state, which has no such law.

The analysis of water is made at the state Laboratory of Hygiene, University of Michigan, which was the first state laboratory of its kind to be established.

Another matter of great importance for state boards to consider is the crime of spreading syphilis among the innocent.

The syphilitic is a constant menace to society. Syphilis counts its victims by thousands where other diseases count hundreds. More deaths are ultimately caused by syphilis than by smallpox, while the injury to health and interference with life-work is much greater in the former than in the latter. The conclusion is absolute. Syphilis should be placed, like other contagious diseases, under the control of the health authorities. It is high time to make it as criminal to transmit syphilis wittingly as it is other contagious diseases. It is too late in the history of science and humanity to stigmatize the disease as "venereal," and on that account withhold protection from thousands of innocent sufferers, babies, nursing mothers, persons infected in dental and surgical operations, etc. Tarnowski, of St. Petersburg, says he knew of one syphilitic woman that had contaminated 300 men in less than 10 months. This was only the primary lesion; later effects and the number acquiring it cannot be estimated. Would we allow one small-pox patient to give the disease freely to one-tenth part of 300?

Fournier says 25 per cent. of all syphilitic women acquired it in lawful marriage relation, while 75 per cent. of married syphilitic women acquired it from the husband. Buckley claims that 50 per cent. of all and 85 per cent. of married syphilitics acquired it from the husbands.

In the United States Army, Department of the East, in five years, 1870 to 1874, there were 4.22 cases per hundred. In the mercantile marine, in '72 and '73, were 3779 cases, or 15.33 per cent. of all sailors, treated in hospitals. Dr. Sturgis estimated that in New York 50,000 cases are treated annually.

The late J. Marion Sims, in 1876, before the American Medical Association, said: "There can be no difference of opinion among us regarding the two following propositions: First, We want a system of sanitary inspection and control which will enable us to prevent the importation of syphilis from abroad. Second, We want a system of sanitary inspection and control which will enable us to take charge of the subjects of syphilis at home, and prevent them from spreading it through the community."

The complete eradication of this evil cannot be accomplished at one step, but by a process of evolution.

The first step must be the education of the people to its prevalence and dangers. Every state should require from each applicant for

a marriage license a certificate from the regularly appointed physician that he or she has never been the victim of syphilis, either hereditary or acquired. All physicians should be required to keep a record of all such cases treated and report them to the state board of health. Whereupon pamphlets should be sent to the patient, giving instructions for the prevention of its spread. Every person who, knowingly, either by contact or carelessness, infected others, or allowed them to become infected, should be imprisoned for a long term of years. Thus the keepers of brothels would become responsible for the condition of the inmate.

This matter is of such vital importance, syphilis having afflicted so many hundreds of thousands of the people of all nations for so many centuries, and a matter that is of paramount importance to us as physicians, since each one of us is liable at any moment to become an innocent victim of this dread scourge, the American Institute of Homœopathy, leader in medical education, can do no greater service to humanity than by taking active measures for the restriction of this most loathsome disease. Let a committee be appointed to gather statistics and data and formulate plans for removing this blot from the page of modern civilization. This accomplished, thousands in future generations will rise up and call us blessed.

Discussion.

A Member: I do not feel able to do justice to this paper just read in the limited time I have to speak extemporaneously, having but a very few minutes to look over or know that I was to discuss this very valuable paper. Permit me to say parenthetically that no section of this Institute is so pregnant, and almost forcing its matured progeny upon us to as great advantage, as this subject of sanitary science.

Bring on the skilled accoucheur and let the delivery proceed at an early day of our next meeting.

The essayist commended very highly the sanitary laws of Michigan, which is deserved. Michigan legislators are always ready to take advanced steps, when the step to be taken is properly presented and worthy. The mistake made by them was in the executive officer and the narrow, egotistical board which followed. This the last Legislature came very near correcting, but the majority being badly informed, did not quite complete the work.

The millions of treasure sacrificed in prosecuting the theory of tuberculous tests in cattle, and the prevention of anthrax in sheep, and the fatality in the attempted curing of consumption (tuberculosis) in the human, and rabies inoculation for the cure of the bite of rabid animals, marks an epoch which should, and soon will, demand a halt in all such ill-advised adventures.

The paper referred to the moneys expended by the state, and the prompt "stamping out of contagious diseases."

The order of the state board of health to fumigate school-houses and private residences was followed by a continuation of laryngeal, pharyngeal and bronchial inflammations frequently diagnosed diphtheria and pneumonia, and followed by the great fatality of those diseases in the hands of such diagnosticians and boards of health and panderers to "fads" and ill-advised methods named "scientific."

The epidemic of smallpox in Detroit and of diphtheria in Bay City are two examples of the "stamping out" process, good for doctors' purses but severe on the confiding people, but I am glad to say many conscientious doctors protested, and only submitted to so much as obedience to law made necessary.

The fact is that the same board of health requiring Sulphur fumigation gave strict caution to avoid exposure of persons to the fumes, and now have learned that the process of Sulphur fumigation is not only injurious, but that diphtheria germs actually thrive in that media. Such are the great inconsistencies of "fads" and boards of health, to wit: more people are killed and more property destroyed, and more sickness caused, than would follow common every-day good sense, *i.e.*, keep clean and avoid frequent changes and exposures, and eat good wholesome food at regular intervals, having regular and wholesome exercise every day.

"But," do you ask, "are there no prophylactics?" I answer yes, each disease has its own prophylactic, and with this must also be considered the individual, the environment and the epidemic. The curative remedy will prevent more certainly than any antiseptic supposed to destroy the specific germ.

Syphilis can only be prevented by education. Teach men to love, to become good husbands and fathers; women to be constant, good wives and mothers. Teach all humanity to adore the home and honor those who maintain homes; to discourage all who would or do make a home public or interfere with the sanctity of pure family life, and discredit the gossip monger and disturber of domestic peace.

The modern woman despises the family and children, and is therefore a menace to home and happiness, and is a standing enemy to purity.

J. C. NOTTINGHAM, M.D., Bay City, Mich.: I wish to call your attention to the state board of health mentioned by the paper of Dr. Stevens. Many of their means of prevention of disease I am satisfied cause more disease than they prevent. Take, for instance, the prevention of diphtheria by the fumigation of public buildings with Sulphur. Do the fumes of Sulphur occur to you as having any effect upon the living organism? Do you believe for a moment that any one can inhale the fumes of Sulphur without predisposing themselves to the pathogenetic effects of Sulphur? If any one is predisposed to diphtheria, would not the fumes of Sulphur or Sulphur flowers as deposited throughout the school-room, for instance,

wafted by the air currents from the floors and window casements and desks, where it is precipitated, and then inhaled by the students, produce, or rather excite the condition that would produce, diphtheria?

I will give you one instance of a town where they persisted in fumigating the school-houses with burning sulphur at night continuously for many weeks, and opening the windows early in the morning, and closing them to warm the rooms before school. They were fumigating for diphtheria, but it turned out later that we were being exposed to cholera (?), so they (this same board of health) concluded that it would prevent cholera. I took my daughter out of the school; others were coughing, and I had more patients from the effects of the fumigation by sulphur than I did from the diphtheria; I did not have more than two or three cases of anything that could be called diphtheria during that whole term of the prevalence of diphtheria in Bay City.

T. P. WILSON, M.D., Detroit, Mich.: Did they do this fumigation while the children were in the school-room?

DR. NOTTINGHAM: No, sir, at night, with closed doors and windows; then early in the morning the doors and windows were opened and the rooms aired out. This was under the direction of the state board of health of Michigan. I do not mean to cast any reflections upon the state board of health of Michigan, but there is a great deal that needs some attention.

That is only one point where I know that means taken to prevent disease produce more disease than they prevent. Many cases reported as diphtheria in Bay City were not; in fact, I believe I would not make a mistake if I said there were not twenty cases of diphtheria in Bay City at any one time; I don't believe there were five; but sore throat ran through the entire period, and for some weeks after they ceased fumigating the school-houses with sulphur.

To-day the state board of health rejects that method, and next year may be they will reject the process they are requiring to-day.

The bovine tuberculosis has, at great expense, demonstrated how little some know about tuberculosis. Thousands, millions of dollars' worth of cattle have been sacrificed only to find it was all wrong; millions of dollars' worth of sheep in Germany were sacrificed to prove that the theory of inoculation for prevention of anthrax was false and absurd.

And so with many of the affairs of the profession who want patients; the health board wants patients reported as having consumption, understood to be tuberculosis—whenever they have a cough, profuse expectoration, or little râles in the lungs, and perhaps an abscess, it will be pronounced tuberculosis, and many poor people will be surrounded with the feeling that society and friends do not want to be near them and shun them; they are not to blame, they are not criminals, they do not deserve to be placed in such a

position. Many people suffer from an abscess, and it is reported as consumption, tuberculosis; such a condition furnishes a nidus for the development of tuberculosis germs, but the germs do not exist until a condition favorable to their development exists.

Deaths from syphilis were referred to in the paper. I do not think the deaths are as serious as those who live. It is a definite disease, and could be eliminated if law could be made effectual, but undoubtedly it cannot be, at least the world has never succeeded in making it so, notwithstanding many efforts. Syphilis can only be diminished or controlled by education and refinement.

C. B. KINYON, Rock Island, Ill.: The essayist brought out a great many very excellent points, and I wish to speak upon two of his points and in that way make a third. He mentioned the fact that all persons were in a condition to learn upon matters of sanitary science while they were being educated. He also mentioned the fact that the Legislature of Michigan had passed a law this last winter compelling instruction in the schools upon the principles of sanitation.

The third point I wish to make is this: There is nothing that will wake up the great majority of parents to the importance of any subject more cogently, and impress it more upon their minds, than having the little folks come home and tell what has been said to them by the teachers. They will come home and say the teacher told them this thing and that thing was unhealthy: and it will not be very long before the whole household will have it impressed upon their minds that they must take care of themselves. How frequently do we hear in our state of the little ones influencing the fathers and mothers, sometimes, too, in regard to the evil effects of liquor and tobacco. We have had that law in our state the last four or five years. There is one point which recurs to me at this time. The Supreme Court of Illinois decided very recently that they could not compel physicians to make birth reports and death reports. Of course, some of the physicians are disposed to take advantage of that, so that the vital statistics can have no value at all. A federal law can and ought to be passed, so as to overcome this difficulty and all other difficulties where there is no uniformity in the several states.

Michigan perhaps is very fortunate. In our state we are very unfortunate in having a state board of health that is the product of the unwisdom rather than the wisdom of bad politics. The board is constantly changing, and men are put on it more for the number of votes they can control than their knowledge of sanitary science.

In our state we have fifty dollars given to the state board of agriculture or live-stock commission, for the stamping out of pleuro-pneumonia, to one dollar given to the state board of health. In other words, they consider a cow worth fifty times as much as a human being. That is the truth of the matter, as we find it in our state, because pleuro-pneumonia is contagious, but no more so than t he same disease or kindred diseases in the human family.

I hardly agree with some remarks made by Dr. Nottingham, which do not come directly under the title of the paper as outlined by our essayist. One that I have noted is the fact that the germs do not exist until conditions favorable for their development exist, while as a matter of fact the germs exist all the while, and are ready to do their work when they come in contact with the proper conditions. If I or any of my friends had consumption, I am sure I should not consider it a hardship to them, or a hardship to myself, to be isolated; in fact, I should accept it as my duty to keep away from people as much as I possibly could; at any rate, I should adopt every possible means to keep from giving it to them, and I should not consider it a hardship to isolate them to some extent, as much as was necessary to keep from giving it to others.

The health authorities in the cities are about as bad in our state as the state authorities; it is purely a matter of local politics: and if we as a profession can bring about a change of sentiment as to the need of proper fitness of those who have the authority to make the arrangements, and can help to get the right person in the right place, we will have done a good work.

MARY A. WILLARD, M.D., Detroit, Mich.: This paper has touched me in a tender spot. To my mind the paper is one of the most important that I have listened to during this session. I thoroughly agree with his sentiments as expressed in this paper; I think I agree with every word of it.

I hold a paper in my hand entitled "Proposed Abolition of the State Board of Health," and I understand that it is being agitated. I think if they abolish that state board of health they will do a very unwise thing, because I am sure it has done a great deal of good and will continue to do so, and I believe that every state in the Union should have a state board of health, and the people and the profession should stand by it, and if they do not succeed in getting the right kind of doctors on the board, let them put on some women.

I want to speak of this matter of spitting, and it is a matter that should have been spoken of years ago. Where are you going to get disease germs if you do not get them from the air as the sputa becomes desiccated and carried into the parlors and into the kitchens and everywhere else by the moving of the ladies' skirts carrying disease with them.

Then, I want to speak of the matter of smoking everywhere on the streets. We cannot go out ourselves for an airing, take our sick children or a sick friend out, without having these fumes forced into our lungs, and with the fumes of the tobacco do we not also get disease germs from the breath of the smoker? I do not know what I get, but I know that I get something that makes my bronchial tubes feel as if they were raw, and also a smarting of the eyes, and I know that others are equally susceptible.

And now I want to say something still more startling, but I believe it should be said, and I do not hear it said by any one else,

and that is with respect to this horrible disease of syphilis. I believe that I know a cure for that disease, and an effectual one that will stamp it out of the community after a time. A young friend said to me a few minutes ago, just before this meeting convened, that we must do a little surgery in order to get our names up. Now, I do believe that if a little surgery was done on these syphilitic cases, both men and women—a little surgery *of the right kind*—we would in a very few generations stamp syphilis out of existence. I am not jesting. I believe this suggestion to be practical, possible, imperative and conservative.

T. P. WILSON, M.D., Detroit, Mich.: Dr. Stevens's very excellent paper incites me to call attention to two very important facts: One is (not referring to his paper, but to all papers upon sanitation which, to a large extent, come under the same ban, if I may call it so) the extraordinary exaggeration of the things we have to combat. I say not one-half of the allegations are true regarding those things that we, as a body, are expected to meet. If any one will sit down and study the vital statistics of this country or any other, under all circumstances, there will be so many born and so many die every year. Upon that general law of biology it is not important so far as that fact goes, whether they die of scarlet fever, consumption or syphilis; if you stop it up in one way it will burst out in another. You can not stop the laws of nature, and if a thousand lives were saved by a single sanitary law by which there should be no more consumption, no more diphtheria, you would not alter the death-rate a hair's breadth; there would be just as many people die as before. You can not alter the ratio between life and death, and if you could, if it could be said that you added 10,000 lives to the population of the country by sanitary legislation, the thing would destroy itself; we would have an epidemic or a great war or some other disaster by which people would be destroyed by the thousands and tens of thousands. That point it seems to me is an important one.

One other point that I wish to make in relation to our ideas of prophylaxis: You talk about Sulphur or you talk about vaccination or you talk about antitoxin serum, it is all in the air. We are being made fools of all the time. I say to you now there is not a word of truth in it.

B. W. JAMES, M.D., Philadelphia, Pa.: The doctor believes it is better to have lived and lost than never to have lived at all. I believe as he does too, but that we had better cherish prophylaxis and do everything we can and spend our millions of money in an effort to prevent disease as far as possible and postpone death, even though we fail in the end.

DR. WILSON: What warrant have you for commencing such a course?

DR. JAMES: The results obtained. If the doctor will look at the present mortuary statistics and of sanitation from all the cities of Europe and compare them with what they were before sanitary measures were introduced and what they are now, if he will also look into our own country and cities—take Memphis and Jacksonville, etc.—and compare the mortality statistics per 1000 annually decades before and now, he will see what I refer to. The facts are convincing that sanitation has saved many thousands of lives.

DR. WILSON: I do not deny that for a moment.

C. F. MENNINGER, M.D., Topeka, Kan.: There are thousands of men and women who, by reason of the efforts that they are putting forth constantly every day of their lives, are entitled to an immortal crown for acts of heroism and acts of charity that they are doing for mankind, and we know that they are saving the lives of many, and that we are reducing the number of deaths for the entire world and relieving mankind from suffering and distress, and the highest ambition that any physician could have is to prevent disease and not to cure it.

I believe that the lady who preceded the doctor, when she spoke concerning the doing away with syphilis by performing the simple operation of castration, has come to the very point that we may possibly come to in dealing with a certain class of criminals. I believe we must take positive steps in this matter. I have found in my experience with chronic cases that there are some cases that have not answered to apparently indicated remedies, where upon a faithful re-examination of the patient, even to the extent of stripping them to the skin and examining the skin most thoroughly, finding a few indications, I have given Syphilinum in the highest potency, and I would get an almost immediate response, it being the required remedy that unlocked the whole case before I could get the patient well. We have the disease transmitted even to the fourth and fifth generations, and I believe further than that sometimes.

Now, as to the use of Sulphur, Dr. Nottingham spoke concerning it as a means of fumigating. It is a well-recognized fact that Sulphur in the form of a gas is less efficacious than when it is converted into Sulphurous acid; that consequently it would be better to moisten the walls and the floor and the clothing exposed, that it would do better work in preventing or in annihilating the germs of any contagious disorder. The gentleman who wrote the paper said that the states of Michigan and Massachusetts were the only states that had a law against the adulteration of foods. I wish to state that Kansas also has, and it is being enforced.

DR. WILSON: I am entitled to an explanation, because I am misinterpreted. I would not be in favor of sanitary science if I did not think it increased the sanitary qualities of the people. I

object to certain faults that have crept in, and I again maintain just what I said.

The gentleman who referred to the Food Commission is mistaken as to its quality. I can tell him that it is the biggest kind of a fraud ever committed upon a state, that the men who are at the head of it have been convicted of the foulest crimes known in the administration of the law, not that this was the fault of the law, but it was not properly passed.

I believe sanitation, if properly employed, will tone up each individual and so far make him immune. My belief is that the laws of sanitation will tone up a community, making it immune, but trying to stop typhoid fever or diphtheria by such a process is absurd. Don't say I do not believe in sanitation.

C. T. Hood, M.D., Chicago, Ill.: I am always deeply interested in anything of this kind. The paper was well prepared, and evidently a great amount of pains was taken in its preparation, and it is a paper I think we are all ready to appreciate thoroughly.

I am a little surprised that the doctor who finds so much fault, cares to attend the session. If I put no more value upon sanitation than he does I would have taken a street-car ride this afternoon.

Now as to the point of syphilis: We see the manifestations of syphilis not only in the second and third, but sometimes in further generations, and we see also young people with sundry forms of nervous trouble that are the result of hereditary syphilis, and for one I am cordially in favor of any means that this society or any other society, or the state, or any other body of men or women can devise or conjecture for obliterating that most terrible disease. But you know, ladies and gentlemen, as well as I do, that the social evil is among us, and the question is how to get rid of it. The way to prevent syphilis is to do away with the social evil. How are you going to do it? It is very easy to sit here and spin theories, and say we should do this or that. Show me one single practical idea that you can bring to bear in such a city as Chicago, in some streets and some localities as seen there. There is one point that I see every week in glancing over the little children that present themselves at my clinic: What part have we as parents in the continuation of the social evil? What part have you? What do we do to keep it up, and what do we do to suppress it in our own selves, in our own homes?

The doctor has made a statement but a moment ago that if we can show him one instance where sanitation has done anything to stamp out typhoid fever or any other of these diseases, he will be in some measure appeased. Eight or ten years ago, during June and July, I would have in my practice from eight to fifteen cases of typhoid fever on the west side in Chicago; I have had more than fifteen cases at one time. After the new water tunnel was completed, taking the water beyond the sewage area out in the lake, I have had during the last two or three years, though with a very much larger

clientage, only a very few cases; in fact, in the last two years I have seen but very few cases of genuine typhoid fever.

R. H. STEVENS, M.D., Detroit, Mich.: I want to say this: I know I have got to die, but I want to be as healthy as I can be while I live, and I want to live a good long time, and if I can do anything to prevent the spread of disease, I want to do it. I think the trouble with most state boards is that they are controlled by politicians. This is certainly a very great evil, and it would seem to me that the best way of getting rid of it would be for the National Medical Associations to take some steps to get the control of sanitary matters put in their own hands. They might not be able to do it, but they can agitate the matter and work for it, and possibly they can accomplish it. If the National Association could have the power of appointing the state boards of health, say, for instance, a board created by the National Association could have the power of appointing local boards of health, and let this board from the National Association constitute the National Board of Health, a great deal more in sanitation might be accomplished than we can now possibly hope for, and while I am a very young member in this Institute, only three or four years old, I should like to express an opinion or suggest that a committee on sanitation be appointed in this Institute for this very purpose.

DR. WILSON: I can assure the doctor that it would meet with constitutional objections that would make it null and void. The business of the government would never be handed over to any association of that kind.

THE CHAIRMAN: You did not make this a motion?

DR. STEVENS: No, merely a suggestion.

The Prevention of the Spread of Contagious Diseases.

By Ella D. Goff, M.D., Allegheny City, Pa.

About a quarter of a century ago sanitary science received so strong an impulse from the labors of Lyon Playfair and others that many persons regard it as of modern origin, but on turning back to the records of early history we find in many cases that the health of the general population was a subject of legislation.

The Mosaic code of laws, the most ancient on record, contains minute directions for the cleanliness of the person, the avoidance of unwholesome food, purification of the dwelling and the seclusion of persons with contagious disorders.

The Romans found time in the midst of military occupations to construct the "Cloaca Maxima." At a later period many and extensive aqueducts were constructed for the water supply of Rome, and their splendid ruins attest the munificence and the abundance with which the first of the sanitary requisites were supplied to the imperial city. They also recognized the necessity of free ventilation and good drainage, and early in the history of Rome the public bath was established, and state physicians were appointed, whose duty it was to attend to the public health. But like many other good things, sanitation was carried to an extreme. The bath became an expensive luxury, and out-door sports were indulged in to such an extent that business and important duties were neglected. And a once thrifty and energetic people became improvident and indolent, and their many industries were lost or hidden for ages. Where cleanliness and purity once ruled, adversity, squalor and filth took its place. This people degenerated, and sanitation, among the sciences and arts, fell into decadence. The human body, once so magnificently cared for, neglected, became a prey to loathsome and virulent diseases which developed and spread. The mind and intellect became sordid and narrow, and when epidemics followed from neglect of nature's laws, it was considered a special manifestation of God's wrath.

For a number of centuries little attention was paid to sanitation, but during the eighteenth century many important steps were taken for the improvement of public health.

Under a proper system of drainage ague became extinct in many districts, and vaccination, incomparably the greatest discovery yet made in this department of science, was the crowning achievement of the century.

Hippocrates, that eminent physician of antiquity, defined the principles of public health and sanitation as "Air, exercise, aliment and rest, sleep and wakefulness, repletion and evacuation and the passions and the affections of the mind." And he also said that there must be an exact balance between food and exercise or disease would result.

The human race changes but little—the world never grows old. And what was true then, is true now. Dr. Landon C. Gray, of New York, says: "If we could keep men and women clean, give them proper nourishment—digestible foods that their needs call for—give them eight or nine hours' sleep every night, give them plenty of exercise in the open air and sunshine, the microbes of disease would largely go out of business."

We find that where people have wholesome food and pure air, live even lives, undisturbed by excitement and ambition, epidemics are rare.

As, for instance. the Economites of Pennsylvania. Every evening by nine o'clock the entire town is abed and asleep. The food is prepared in one place, and each householder receives his portion fresh every day. There are no town election days, and the people are so deliberate in their movements that the grass grows in the streets. While this life is monotonous, and we would not advocate it for ourselves, this people are hearty and hale and live to a good old age.

In a village or small town it is comparatively easy to prevent the spread of a contagious disease, but in our large cities, where there is the crowding of tenement houses and so little breathings pace, the question assumes large and serious proportions. At the present time sanitation is commanding a full share of attention and investigation with other scientific subjects. While the theories of the scientists are most excellent, they are of little value without the cooperation of the boards of health. Therefore, it is important that these officers be selected with regard to their intelligence and understanding, for upon them, in a measure, depends the health of the community. Through the negligence of these men and a panic among the people contagious diseases are frequently spread. As in a recent case of smallpox at Hot Springs, Ark., and another in a

hospital in an eastern city. This leads to the remark that there is an urgent need for hospitals for contagious and infectious diseases. It would be a heinous crime to admit these cases to our general hospitals and multiply the sufferings of the patients there. By hospitals for contagious diseases is not meant a city pest-house, where patients so frequently refuse to go, but private pay hospitals, where the patient suffering from a contagious disease may be isolated and still have the care of his own physician without endangering the lives of his family.

While isolation is a very important factor in the prevention of the spread of diseases it is not all. The most deadly germs perish when exposed for a few minutes to the direct rays of the sun, and, while other disinfectants may often be necessary, the value of sunlight as a disinfectant is incomparable. Hence the importance of admitting the sun to every portion of our hospitals and dwellings. In order to have an ideal sanitary house the building should be constructed of translucent glass, so that the sunlight could penetrate to every corner. Dark rooms and closets are considered a hot-bed for germs.

Cleanliness is of absolute importance in dealing with this class of diseases. Pure hot water is an excellent germicide, and cannot be used too abundantly. It is not always possible to recognize filth when we see it, for appearances are deceitful. On the authority of a prominent manufacturer of bed supplies we learn that the beautiful rag mattresses and the attractive cheap comforters are made of nauseating rags capable of breeding and spreading all kinds of contagious diseases.

In Berlin during the cholera epidemic of 1893 every means of cleanliness was resorted to. The streets were thoroughly washed and disinfected several times a day. Stores, hotels and private dwellings were visited every morning by a health officer, whose duty it was to prevent the accumulation of garbage and see that no inmate of the house was ill. At the first symptoms of disease the person was immediately isolated and the place thoroughly fumigated. Even the trains and every passenger coming or going from Berlin was subjected to a similar treatment. The most severe regulation were enforced concerning diet. All water was boiled, fresh fruits forbidden and only certain vegetables were to be found in the market. With such strict sanitary laws is it any wonder that Berlin claims to be cholera proof?

To prevent the spread of contagious diseases strict attention must be paid to food, and pure food is only obtained by rigid enforce-

ment of pure food laws. The food furnishers invest largely in poor supplies, and where the inspectors are known to be negligent these inferior foods are put upon the market, and owing to their cheapness are bought by the poorer class of people, and this is one reason why the epidemics so frequently begin among the indigent.

Milk, our most important article of food, is to-day charged with a large percentage of the deaths by tuberculosis, and it is also a conveyer of other diseases. Hence every health department should have a capable veterinary surgeon, who should inspect all cows three times a year, and all infected with the disease should be destroyed. A close watch should be kept over all milk-men and their premises inspected often. Cleanliness, proper food and water should be insisted upon. Drs. Busy and Kober found that one hundred and thirty epidemics of typhoid fever had been traced to contaminated milk, and in fifty-four instances the milk became so through washing the cans in infected water. One of these was a milk-man whose well got low, and although he washed his cans but once at his neighbor's well with infected water, thirty-six of his customers came down with typhoid fever. Such an amount of evidence has accumulated that there is no longer any doubt of the transmission of contagion by milk.

One very ready way of spreading disease is through the school-room. While the laws on this subject are very strict, the sympathy and ambition of the teacher frequently prevents their enforcement. Occasionally a particularly bright pupil is permitted to remain at school even after a notice is served of a contagious disease existing in the family. A recent publication condemns circulating libraries during epidemics, as the books are considered a means of carrying microbes.

A summary then on our thought on the prevention of the spread of contagious diseases is pure air and water, wholesome food, plenty of sunshine, cleanliness, out-door exercise, isolation, private pay hospitals and the rigid enforcement by the boards of health of the sanitary laws of the cities.

Discussion.

Theo. Y. Kinne, M.D., Paterson, N.J.: I would like to call attention to the fact of the spread of contagious diseases through school-books. In our Eastern cities the school-books are furnished by the teachers. These books are delivered to the scholars; when they pass from one department to another the books are returned and given to other scholars. I know of one case in our own city where five children

took diphtheria by sitting at the desk upon which were books returned from a house where there was diphtheria; three of those cases died. We are now notifying our librarians; whenever there is a case of contagious disease the board of health sends notification to the public libraries. One great trouble is that you cannot disinfect books; steaming has been tried and heat has been tried, but you cannot disinfect through paper. The germs get in between the leaves. In the city of Boston I believe they do not allow the books to go out.a second time; that is much cheaper than to lose the lives. I think attention should be called by you to the boards of health and boards of education. In the state where I live all the cows are inspected before the milk is allowed to be sold. The owner of these cows must have a certificate from the veterinarian appointed by the board of health; that is, not only that his stock are in perfect condition, but the stalls in which they are kept are in a sanitary condition. The water which they drink must be pure before they are allowed to sell milk at all.

Again, throughout the state in all public wells the water is analyzed at the expense of the city; no water is used without it has been analyzed, and any person owning private wells can have the water analyzed if they so desire. All cases of typhoid fever are reported at once, and they investigate to see where they got their drinking water. The result is that we have no secondary cases of contagious disease in our city, and it is generally so throughout the state, simply because there is an iron rule by which boards of health are supreme above courts and judges. Our health officer walked into the jail and took out three persons that had been in a house where there was smallpox; they were taken to the city hospital and kept there until the danger was over.

C. WEIRICK, M.D., Chicago, Ill.: A gentleman connected with a large charity hospital in Chicago gave the rate of mortality in pneumonia as about 25 per cent.; that is not the exact percentage given, but it is approximately correct. He also stated that in his own private practice he seldom lost a case, the percentage being small. We also know that the cures elsewhere are over 90 per cent. Now, why this great mortality in the hospital? The great death-rate in the hospital was attributed largely to alcoholism.

It seems to me that more deaths result in this country annually from the use of alcoholic beverages than from any other one cause. The example given shows its power to impair the physical strength.

SARAH J. ALLEN, M.D., Charlotte, Mich.: I want to accentuate what was said in regard to the value of fresh air, but I want to call attention to the objectionable north room for a sleeping room. I care not how much air you admit, you never get pure air, and you find tuberculosis cases developing rapidly if they sleep in a north room. The dampness of the air on the north side of the house will affect them very injuriously.

The Disposal of Sewage and Garbage.

By Robert Hall, M.D., Providence, R. I.

How to get rid of sewage and garbage is one of the vital questions of the day. Many suggestions have been made, and systems instituted for the purpose, but perfection of a satisfactory degree has not been attained.

It is not necessary to speak of the importance of this subject as a factor in the domain of sanitary science, for that is apparent to every one.

It is evident that no one system can be used in every case to advantage. Each city, town and locality should be studied individually, and the method best adapted to meet the conditions should be used.

To secure a high degree of sanitary results, it is important that the solid and liquid excreta from the bowels and kidneys should be removed as rapidly as possible, and, when the arrangements for a continuous and rapid removal are provided, safety requires that the temporary detention of the material shall be so guarded that the danger of polluting the soil, water and air shall, as far as possible, be prevented.

In rural districts and small villages, the proper disposal of excreta need not be a matter of great embarrassment, but in cities and large towns, where large numbers are aggregated on comparatively small areas, the local management and ultimate disposition made of the material becomes an exceedingly difficult question to determine.

The removal of filth out of the immediate locality of human habitations is a primary consideration, but it is also important that its final disposition should be so managed that no nuisance shall result. The latter consideration is of great moment wherever a system of sewerage exists. Sewer out-falls should be prevented from becoming a nuisance, and water courses must be protected from pollution. This may involve, as its consequence, the adoption of some one of the methods for the purification of the sewage, either by irrigation or filtration, or, if land cannot be obtained, by precipitation with chemical agents.

That all excreta ought to be removed as quickly as possible from the neighborhood of our dwellings is admitted, but, with respect to the methods for accomplishing this object, there is a diversity of opinion. Local conditions will necessarily influence the solution of the plan. The various plans for the removal of excreta may be conveniently discussed under the following heads:

1. Water system.

2. The dry systems, such as Moule's earth-closet system, the Goux system, the ash-closet system.

3. Other systems—Privy-vaults and cesspits, the simple pail system, the simple pneumatic system, the Lienur pneumatic system.

As the limited length of this paper will not permit the consideration of all these systems, I shall confine myself to the consideration of the water system.

The system of removal of excreta by water-carriage and gravitation, through underground conduits, is undoubtedly the best for health and economy, but its successful application depends upon certain essential conditions, to which I shall presently allude. It recommends itself on account of its cleanliness, convenience, economy and the rapidity of the removal of waste matters. Local circumstances must always decide between this system and some one of the other methods. In towns where proper sewers cannot be made, or where water for flushing is deficient, or where there is no suitable body or stream of water accessible into which to turn the sewage, or land cannot be obtained for the purification of the sewage, this plan must be abandoned.

In the application of the water system, advantage can be taken of the water supplied for ordinary domestic purposes, so that but little additional expense will be incurred for the amount required for the closets; and, moreover, since channels must necessarily be provided to conduct away all surface-water and water used for domestic purposes, it is evident that, with but slight additional expense, these said channels may be so constructed as to be efficient vehicles for the removal of excreta also.

The necessary conditions to make this system a success are summed up by Mr. Simon, as follows:

"1. That the closets will universally receive an unfailing sufficiency of water properly supplied to them.

"2. That the comparatively large volume of sewage which the system produces can be in all respects satisfactorily disposed of.

"3. That in all premises which the system brings into connection

with the common sewers the construction and keeping of the closets and other drainage relations will be subject to skilled direction and control."

And we may add:

4. That the sewers will be properly constructed and well ventilated, and kept under efficient supervision and control.

If all these provisions be combined and properly carried out, there can be no doubt of the success of the system.

Whether storm-waters should be permitted to enter the sewers is a question which has called forth discussion. In small towns it does not seem advisable to remove all the surface water by underground passages, but in large cities all sewage works should be calculated to convey away, either by the sewers, or by storm-water overflows or special works constructed for the purpose, the maximum amount of rainfall without inconvenience to the inhabitants. A reasonable amount of rainfall can always be admitted with advantage into the sewers intended for the removal of excreta. If the sewers are properly constructed, the admission of rain-water has the advantage of scouring and cleansing these conduits in an effectual manner. Where sewage is discharged into the nearest watercourse there is no necessity for providing separate channels for the rainfall.

When the sewage can be delivered at the outfall by gravitation, the objections to the admission of rainfall are greatly lessened; but when it is required to be lifted to a considerable height by artificial power, in order to be freed from its noxious qualities before being discharged into the river, the addition of a large volume of rain-water will very materially increase the expense of the final disposal of the matter.

Sewers are not mere conveniences, as might be supposed from the manner in which they are often constructed. They have a great sanitary mission to perform, and the more steadily this object is kept in view the more satisfactory will be the results obtained.

A sewer cannot properly perform its functions unless made to conform to certain essential conditions. These have been clearly stated by Mr. Waring as follows:

"1. It must be perfectly tight from one end to the other, so that all matters entering it shall securely be carried to its outlet, not a particle of impurity leaking through into the soil.

"2. It must have a continuous fall from the head to the outlet, in order that its contents may keep moving, there being no halting

to putrefy by the way, and no depositing of silt that would endanger the channel.

"3. It must be perfectly ventilated, so that injurious gases that necessarily arise from decomposition of matter carried along in the water, or adhering to the sides of the conduit, shall be diluted with fresh air, and shall have such means of escape as will prevent them from forcing their way into houses through the traps of house-drains.

"4. It must be provided with means of inspection, and, when necessary, for flushing.

"5. Its form and size must be so adjusted to its work, or to its flushing appliances, that the usual dry weather flow may be made to keep it free from silt and organic deposits."

It is important that all of these particulars should be faithfully carried out. The neglect of any one of them not only defeats its own special end, but interferes with the operation of all the rest, and, to some extent, renders nugatory the sanitary advantages which their united observance alone can secure.

The ventilation of sewers, or the removal and decomposition of the various noxious gases resulting from sewage, especially in connection with the water system, is to my mind of vital importance. In fact, sewage without the element of gases would not be such a dreaded thing to contend with. Thus we may perceive that upon the disposal of the noxious gases rests the vital question of the sewage system.

Unfortunately the means of carrying into effect this most important sanitary measure have not yet been determined with entire satisfaction, although much has been accomplished in this direction.

I shall not consider the various chemical and philosophical conditions which tend to the generation of the gases, but the fact that they do exist is patent to all.

No system of sewerage, however well designed, and however well the plans may be carried into effect, can be depended upon to fulfill its sanitary mission, unless there be combined with it a thorough system of ventilation. By ignoring this principle the town of Croydon suffered from repeated outbreaks of enteric fever. "The early sewer works were designed on the principles that all matters were to be so rapidly discharged from the sewers, and the sewers flushed with such a copious supply of water, that decomposition could not take place, and, therefore, it was thought that 'sewer-gas' would never be present; but in practice this theory was not found to be

borne out, and it is a remarkable coincidence as to the cause of fever in Croydon (which took place at certain intervals until the year 1866, when the sewers were thoroughly ventilated) that diseases which formerly made their haunt in the low lying districts were transferred, after the completion of the drainage works, to the highest or best portions of the town, thereby establishing the fact that the presence of the disease in the highest localities was due to something carried in the air of the sewers, which, in obedience to a natural law, accumulated in the highest part of the district." Since the introduction of ventilation it is said there has been no epidemic of fever until very recently (due to defects which were promptly remedied), and the mortality has very much decreased.

The ventilation of the sewers of London, though not by the most approved method, is asserted by competent authority to have been attended with good results, as indicated by the small death-rate of that city. Of the various plans proposed to effect the ventilation of sewers, very few are of much value. Attempts have been made to secure ventilation by drawing the air out by mechanical appliances, but with little success.

Experiments have been made by shafts and furnaces specially contrived for the purpose, but with little satisfaction. It has been proposed to make use of the chimney shafts of manufactories, without satisfactory results, as we might expect.

Combustion by means of large furnaces has also been tried, the sewer-air being carried into the ash-pit and through the furnace fire.

Ventilation by rain-water pipes has been recommended. The disadvantages of which are apparent. It is said at Croydon this system was rigorously enforced for several years, during which time the death-rate of the district increased. It has been suggested that lamp posts and telegragh poles be so constructed as to serve as ventilators.

It has been proposed to deodorize or disinfect all matters either before being passed into the sewers or during their transit through these channels. This plan is not only expensive, but it has been found to be impracticable. All of these plans seem to be worthless or nearly so.

What, then, is the best plan for the ventilation of public sewers? In determining this question the essential points to be borne in mind are, as stated by Mr. Latham:

"1. That the system shall be simple in its operation and not likely to get out of order, and that it shall be independent of uncertain mechanical aid.

"2. That it shall admit of the expulsion of all sewer air and the supply of fresh air at all periods.

"3. That the escaping gases shall be so diluted with atmospheric air as to be rendered harmless, or that they shall be destroyed or arrested.

"4. That the system shall not impede natural ventilation.

"5. That it shall not be costly in execution or maintenance."

The best system, so far as I know at present, is to ventilate by means of man-holes, which it is said should be located in the middle of the street. The object of placing the man-holes in the middle of the street is to dilute the gas as much as possible before it reaches the people on the sidewalks.

The fact is, that as yet no system or combination of systems has been instituted whereby the gases are successfully removed from the presence of the people. In large cities and towns we are constantly inhaling these gases, to the detriment of health and comfort.

Before closing this paper I wish to suggest the outlines of a system for sewer ventilation, for the consideration and criticism of this Section of Sanitary Science.

At the outflow of the sewer arrange two cisterns of equal size, of sufficient capacity to contain the usual outflow for twenty-four hours, more or less; these cisterns to be made air-tight; their connection with the sewer be so arranged that, by the easy manipulation of gates, the sewage can be thrown into one or the other at will.

In convenient relation to these cisterns erect a furnace and ventilating shaft or chimney, together with steam-boilers and engine of sufficient capacity to furnish all the power required.

Place an air-fan in proper relation to the cisterns, so that it may exhaust the gases and foul air from one or the other of these cisterns, as may be desired, thus producing a sufficient degree of vacuum to draw all the gases from the sewer. This fan will be so arranged that the gases drawn from the cistern will be thrown under the grate of the furnace, thus assisting in promoting and increasing the combustion of the fires, thence passing off, partially decomposed, through the chimney, in an innocuous state.

The object of having two cisterns is that while one is being emptied the other may receive the flow of sewage at the same time. If the condition is such that the sewage must be elevated to a greater height, the power above referred to can be used for that purpose, otherwise a valve may be opened, and the contents allowed to flow in the proper direction.

In some cases this plan may require the "Separate System," which would be determined by the special circumstances.

The man-holes would be made close instead of being ventilated. All the street gullies should be properly trapped; in fact, no ventilation to be allowed under these circumstances.

When a basin is opened into the drain-pipe that leads from the house to the sewer the draft will be down instead of up.

A few words with regard to the removal of "garbage."

The garbage should be placed in well-covered boxes outside of the house. From these boxes it should be taken every two or three days, and placed in a well-covered box on a wagon, and rapidly taken to its place of destination. I believe that cremation is the best and safest method of its disposal. I would suggest that the furnace previously referred to be so construsted as to furnish a proper and convenient crematory for the destruction of the garbage, thus constituting a unique way of disposing of the sewage, gases and garbage of any given district.

DISCUSSION.

H. R. STOUT, M.D., Jacksonville, Fla.: In Jacksonville the present method of cremation is most satisfactory. Nothing of that kind is allowed to accumulate around the yards or streets. All garbage in the city is burned, and we keep the city in good sanitary condition in that way.

THEO. Y. KINNE, M.D., Paterson, N. J.: I think there is no doubt but that cremation at present is the best way. How we can dispose of sewerage is a problem. Some of you may have heard that the Passaic Valley, which includes Newark, Jersey City, Paterson, Passaic, and so on for many miles, is now receiving the attention of the State Board of Engineers, and the great problem with us is how to dispose of the sewerage. Garbage is an easy matter to dispose of; cremation disposes of it perfectly. We claim that the sewerage of our cities is 100 gallons *per capita;* taking a city of 100,000 people, you are getting 10,000,000 gallons every day. There must be some way of disinfecting it. Electricity is being tried in some Eastern places, aëration in some places, and so they are trying different ways; but the great problem is how to dispose of sewerage. Near the seacoast I know of no way but drawing it out a certain distance into salt water, which will effectually dispose of all dangerous elements. Chloride of sodium is being used, and one patent system claims to dispose of it fully. In Manchester, England, they cart it out on to the farms, and so in France. We have not the land, excepting around Detroit. It seems as if there was enough land here, but ordinarily it can't be done.

B. W. JAMES, M.D., Philadelphia, Pa.: About the method of disposing of sewage, let me observe that some years ago, when abroad, I looked over a number of the largest cities, from every one of which the sewage ran down into water-ways from the city, and was carried off by water currents. In Holland, a low water level, they had subsiding pools or large boats, and they would take away the material deposited. Another method was by means of running the sewage down from the town from districts, and mingling with it a certain amount of sulphate of iron and other preparations for precipitating and purifying the sewage. Several compounds were used, sometimes a series of them, mixed, as the impure water flowed to the pools, in proper proportion to suit a certain area of territory, and this large territory, probably twenty or thirty or fifty acres, was divided off into sections, and after these ingredients went in the sewage was allowed to run off into these areas and precipitate. The clear water was then run off and the precipitate was dried and thus sold as compost to farmers. At the time I was there I saw great heaps of this fertilizing earth. They told me how beautifully the system worked at first. There were immense heaps, probably twenty or thirty feet high. I said, "What is all this?" They said the system worked all right enough for several years. The farmers took it at about $25.00 a load or more; but by some mistake one time they put in too large an amount of the chemical ingredients, and the result was that it killed off everything on the farm lands on which it was placed; all the grain for the year in a district around the city for miles and miles was killed, and those farmers wouldn't take any more of that fertilizer if you would pay them $100.00 a load to take it away; and for that reason it was all heaped up, and the city could not dispose of it. Here were great hills of this material accumulating, and what to do with it they did not know. This system was originally a good one, but circumstances ruined it. So that the very best systems have their disadvantages at times.

The Prevention of Diphtheria.

By Robert N. Tooker, M.D., Chicago, Ill.

Any discussion of the question of prevention of disease necessarily involves other questions concerning the nature and cause of the disease itself. Unless we have an understanding regarding these associate problems, we shall reach no satisfactory conclusion as to the proper means of prevention, which is equivalent to saying that inasmuch as the impossible is unattainable, the possible is problematical.

Concerning diphtheria, the whole medical world may be said to be divided into two opposing parties, each of which regards the source of the disease from an entirely different standpoint. The one regards it as caused ever and always by microbes—the Klebs-Loeffler bacilli; the other party, while admitting the presence of the Klebs-Loeffler bacilli in most cases of diphtheria, denies that they are always present, and denies also most emphatically that their presence is essential to the propagation and diffusion of the disease.

I shall not enter into an elaborate argument to prove the fallacy of the germ theory, but content myself with a brief statement of the reasons why I regard it with skepticism.

In the first place, all bacteriologists, without exception, admit that cases of diphtheria occur and prove fatal in which the most rigid search fails to find the Klebs-Loeffler bacilli. If a single such case exists or ever existed, the germ theory falls to the ground, for it is contrary to nature for results to be present in the absence of the actuating cause.

If the Klebs-Loeffler bacillus is the cause of diphtheria, it should be found in all and every case of the disease. But it is *not* always present. In a considerable percentage of cases it cannot be found. Still, again, the Klebs-Loeffler bacillus, if the cause of diphtheria, should, according to all analogy, disappear as soon as convalescence is well established. On the contrary, in many cases of pronounced and unmistakable diphtheria it is sometimes, nay often, that the bacilli exist in colonial swarms for weeks and even months after recovery is complete.

Finally, these same germs are found in perfectly healthy throats of children and adults, where they apparently do no harm; cases in which no diphtheria develops and no soreness of throat of any description results from their presence. I am well aware of the fact that the believers in the germ theory explain away these apparent inconsistencies, but their explanations will not bear a critical examination. Dr. Lennox Brown, for example, who is the latest exponent of the germ theory as it applies to diphtheria, says: "Pseudo, false or non-bacillary diphtheria is distinguished by the absence of the specific *toxæmia*, though both the inflammatory and pyemic processes may be exhibited in equal intensity with those of the true disease." He also refers repeatedly in his work on diphtheria—from which I quote these extracts—to false, pseudo or complex diphtheria as possessing all the characteristics and dangers which belong to true diphtheria, and which differ from true diphtheria only in the absence of "the specific bacillus." I must confess that when scientific medicine—so-called—becomes so scientifically subtle that it cannot distinguish any difference except with the microscope between pseudo and true diphtheria, when the two are equally severe and equally fatal, when the clinical history of both is identical and the prognosis equally difficult, under these circumstances I cannot attach any special importance to such microzymes as may be present in one case and absent in another. I can see a slight, even a considerable, difference between "tweedle-dum" and "tweedle-dee," but for the life of me I cannot distinguish any practical difference between two diseases which are observed in the same family or same neighborhood, at the same time, which run an identical course, with the same general clinical history and the same fatality. I am still more puzzled when I find the same remedies are just as effectual or ineffectual in one class of cases as the other.

The germ theory has now been on trial for so many years that it seems proper to consider it as to its practical utility, especially as to the aid it has given us in eradicating this most terrible disease.

As my paper has reference to prevention rather than cure, I shall say nothing about the therapeutics of diphtheria, nor discuss the methods which bacteriology offers as additions to our materia medica. I shall confine myself to a discussion of the means of prevention which the advocates of the germ theory offer us.

Obviously and logically, if bacteria are the cause of diphtheria, the first and proper thing to do is to exterminate them or render

them powerless for mischief. If germs produce disease the desideratum is a germicide, and we have them galore. Every doctor's office shelves are filled with them. Every mail brings news of some new one more efficient than all others. Every chemist is busy striving to evolve the safest and best. Every laboratory in every civilized country has for years past been studying disease germs until nearly every student in all our colleges wears glasses or is troubled with strabismus, either ocular or mental. And for what good? Diphtheria is just as prevalent to-day as it ever was, and if its fatality is lessened to any appreciable extent, statistics do not show it.

The germ theorists have long since abandoned their attempts to combat the germs themselves and of late have sought to destroy or antidote the supposititious poisons or ptomaines which they generate. To this end Roux, in France, and Aronson, in Germany, claimed to have discovered that by making a culture of diphtheria germs and injecting this into the blood of a horse the serum from the horse's blood became an antitoxin, and when injected into a human subject would both cure and prevent diphtheria.

It is some two years now since this most wonderful discovery was made and, if the issues involved were not so momentous, it would be amusing to see the muddle into which the whole subject has become involved. Let me give you a single example: At the last meeting of the Association of American Physicians a doctor from Boston read a paper on "The Conditions Influencing the Appearance of Toxins in Cultures of the Bacillus of Diphtheria." In this paper he stated that muscle-sugar in bouillon varied in amount in the beef of different localities to such an extent as to accelerate or retard the formation of toxins in his cultures, thus rendering the product uncertain and variable. He reached the conclusion at the end of his thesis that, "There must be established a standard bouillon containing a standard amount of muscle-sugar before uniformity of results in the production of antitoxin could be hoped for."

Another physician stated that, "In his work in producing toxins he used beef, chopped it very fine, and then allowed it to stand for a day or two, *until it became somewhat offensive*, and with this made a bouillon from which he was able to secure toxins of good strength."*

From these toxins—so made—"antitoxin"—so called—is made, and is being used everywhere both for the cure, and especially for the prevention of diphtheria. But to such straits are its advocates

* *Med. and Surg. Bulletin*, May 19, 1896.

driven that medical conventions spend hours and days discussing what age the horse should be to furnish the best serum; what breed of horse, and what color of hair and eyes. I have not as yet seen any discussion of the question of sex.

With this introduction to the subject, let us pass to a consideration of the results obtained by the use of antitoxin when used as a preventative of diphtheria.

With its therapeutic results we have really nothing to do, but I cannot help saying that if the medical journals of this and foreign countries furnish any criterion for judgment there is a manifest lessening in the enthusiasm pertaining to its use, and the statistics furnished by hospitals at home and abroad where it has been used, show that the mortality under serum treatment is higher rather than lower as compared with former methods of treatment.

"*The Passing of Antitoxin.*—The Paris correspondent of the *Cincinnati Lancet-Clinic* writes, under the above caption, that it seems that the enthusiasm manifested last year for Behring's antitoxin serum has commenced to diminish. Official statistics published by Bertillon gave thirty-three deaths as the enormous weekly mortality from diphtheria, figures that have never been attained during any preceding year before the discovery of this celebrated so-called specific. Like the rest of serious maladies to-day treated by serum therapy, it is necessary to recognize the fact that such medication no longer keeps the promises made in its name. Besides, Drs. Sevestra, Gaucher, and Legendre have been courageous enough to make known to the Société Médicale des Hôpitaux the serious and frequent accidents to which the anti-diphtheritic serum gives rise even when applied to very simple cases of angina. But all this does not discourage the Pasteur Institute and its purblind disciples."

But however antitoxin may be regarded from a therapeutic standpoint, its advocates have laid great stress on its prophylactic virtues, and have claimed for it a certainty of action not less than that afforded by vaccination against smallpox. Let us consider antitoxin then as a preventative. If it is a reliable prophylactic statistics ought to show the fact. But do they?

During the past fall and winter the city of Chicago has suffered from what our board of health has been pleased to call an epidemic of diphtheria. In truth it was no more of an epidemic than we have every year. Thus, in November, 1895, there were in round numbers two hundred deaths from diphtheria, which in an estimated population of 1,600,000, means one death in 8000. In January,

1896, the mortality from this disease was but 217, and in the whole previous quarter, *i.e.*, October, November and December, the deaths amounted to but 645, or two deaths to every 5,000 population. That the pseudo-epidemic was not of a specially malignant type is evidenced by the fact that in response tc a circular which I sent out in December, 45 Homœopathic physicians practicing in Cook county, reported having treated 315 cases with a mortality of 23, or 7.3 per cent. Of this number, 33 physicians reported having treated 123 cases without a single fatality. After the first of January, 1896, there was a marked falling off in the mortality from diphtheria, as there always is at this season. It is obvious that a mortality so small as this could not indicate an epidemic that was either widespread or malignant. Yet in September, 1895, when the number of deaths did not exceed one in 10,000 population, the board of health began issuing circulars addressed to the public announcing that it was about to inaugurate a war against diphtheria, and, to use its own words, to "*stamp out the epidemic!*" The means to be employed in stamping out the disease consisted in the free use of antitoxin or horse serum. The public was assured that the remedy was perfectly harmless and was unfailing in its results. Physicians were advised to use it, and in some cases were importuned to do so. A special corps of fifteen inspectors was employed to administer it to the poor, and to canvass the city in this philanthropic crusade. The extent to which it was used by the city inspectors and by physicians in their individual capacity is indeterminate, but that it was employed very extensively, is evidenced by the fact that for many weeks over fifty dollars per day was expended in its purchase from the New York laboratory alone, while the open market was drawn upon for additional supplies to meet the demand.

I have nothing to say against the sincerity and honest purpose of our board of health, save that it was offensively pretentious and dictatorial, and its statements of results as published in the public journals from week to week were grossly at variance with the actual facts. For example, on the first of January, 1896, the Commissioner of Health stated over his own signature that the mortality from diphtheria had been reduced by antitoxin treatment from thirty per cent. to six per cent., a statement which was belied within two weeks by his own official reports which showed a mortality of 43.6 per cent.

It is now nine months since antitoxin began to be used with official sanction in Chicago, and it is quite proper to examine the

returns; to weigh the infant and determine if it is going to live, and if not, if it is even worthy of baptism and a Christian burial.

As a system of treatment it is not growing, and indeed I may truthfully say it seems of late to be sadly neglected by its parents and sponsors.

Let us take the records of the health officer, and see how the promises to stamp out the disease have been fulfilled. The mortality from diphtheria is always greatest during the winter months, that is to say, during the last quarter of the year and the first quarter of the succeeding year. Now, if we compare this period during successive years we shall find that the average number of deaths for three years prior to 1896, when antitoxin was not used, was 682, while during the winter months of 1895–96, or during the last and first quarters of these years respectively, when antitoxin was being used, and when the Health Department was employing every power to extend its use; when in fact it was claiming to be "stamping out" the disease with the most wonderful success, the deaths were 1105. That is to say, the number of deaths from diphtheria during an epidemic of the mildest type and of moderate proportions—an epidemic so mild that the term "epidemic" was wholly unwarranted—the number of deaths under antitoxin treatment was 423 greater than the average during the three previous seasons when antitoxin was not used.

If we compare the spring quarter of 1896 with the similar period of the three years preceding, there is a falling off of eleven deaths; but this decrease is so small as to be scarcely worth considering. The figures are as follows: Deaths from dipththeria during first quarter of 1896, 333; average number of deaths same period in 1893, 1894, and 1895, 344. A comparison of figures for a single month, or for three months, is less trustworthy than a comparison extending over a larger period, and the comparison of the six months during and prior to the use of antitoxin is probably more nearly indicative of the influence which the treatment exercised over the disease. As these statistics were given me at the office of the board of health, they must be considered reliable.

It should be stated, in order to make the facts clearly understood, that during the nine months when antitoxin was used, the board of health had free access to the city's treasury. The Commissioner of Health was unhampered in his work. A special emergency fund was provided for his use. He had under his immediate control the largest staff of medical assistants in the city's history.

It has been estimated that in this futile and absurd attempt to stamp out diphtheria with horse serum and a hypodermic syringe the Health Department expended considerably over $100,000. I know of no more striking example of "How not to do it."

During the time antitoxin was being used and this so-called epidemic was flourishing, the city's streets went uncleaned and the alleys were reeking with filth. The city, from end to end, was never so dirty before, but there was no money for cleaning it. All available funds were expended in the purchase of antitoxin and in salaries to those who were engaged in distributing it.

But was the abortive attempt to stamp out diphtheria devoid of results? By no means. I hear every now and again of some case of eczema, anæmia or blood-poisoning, which dates back to the use of antitoxin. Dr. E. C. Williams tells me of a child that died three months after an injection of serum with all the symptoms of tuberculosis, but whose parents and grand-parents were exceptionally strong and healthy, as was also the child before this remedy was used. My tailor told me recently of his daughter, a girl of eighteen, whose life he believes was saved by the use of antitoxin; but now, four months after recovery from diphtheria, she is a confirmed invalid from blood-poisoning. Indeed, so many cases of this kind have come to my knowledge that I do not see how any conscientious physician would dare to use it as a prophylactic. I am of the firm conviction that it has done a thousand times more harm than it has done good, and I do not believe it has prevented the disease in a single case.

But if antitoxin is of no use as a preventative, have we anything better? anything more safe and more certain? In the way of medicine I do not think we have. But before attempting to answer this question let us return to those other questions: What is diphtheria? What is its cause? Great confusion prevails everywhere regarding the real nature of this disease—confusion which is worse confounded by reason of modern nomenclature.

The tendency of late has been to call all cases of sore throat diphtheria, and to treat them as such, but this is a most manifest error, since ordinary sore throats are exceedingly common, while diphtheria is comparatively a rare disease. The mortality from simple angina and the ordinary forms of tonsillitis is scarcely 1 per cent., while that from diphtheria is always greatly in excess of this. Another source of confusion arises from the fact that diphtheria does not show its pathognomonic symptoms for hours, and in some

cases for days after its onset. To all appearances a case may be an innocent attack of follicular tonsillitis and devoid of danger and retain its uncertain symptoms for an indefinite period.

There is one feature, however, which true diphtheria always possesses, and which it is sure to exhibit sooner or later, and which distinguishes it from all other forms of sore throat, and that is *sepsis occurring before the third day*. In parenchymatous tonsillitis or quinsy we have suppuration, but this never develops before from five to seven days.

If we drop the modern name for the nonce, and consider the disease a sore throat, with a rapid tendency towards sepsis, we shall get, I think, a better understanding of its true nature.

The diphtheritic sore throat differs from the common and benign forms of sore throat, essentially in the fact that it is septic and therefore infectious, while the other is not septic and consequently non-infectious.

Dipththeria is a septic angina, and it is so whether the Klebs-Loeffler bacillus is present or absent. But what causes some sore throats to be septic and others not? I answer constitutional susceptibility or peculiarity. And this may be inherited or acquired.

It is a well-known fact that certain families are particularly given to sore throats and to diphtheria. Any sore throat in a child is liable to take on the septic form and become diphtheritic, if its general health has become reduced by unsanitary environments or bad habits of living. In other words, I believe that diphtheria is, in many cases, autogenetic; that it may occur spontaneously if circumstances and surroundings are favorable. I do not believe in the spontaneous generation of *life*, but the spontaneous generation of disease and *death* is another matter.

I have come to regard every sore throat with suspicion. I have known scores of cases where one member of a family has had what to all appearances was an ordinary angina, and soon thereafter another, and usually a younger member of the family has had a genuine case of diphtheria.

I consider "taking cold," next to contagion, the most prolific cause of diphtheria. If to cold you add any of the depressing influences which come from unsanitary surroundings, you have a combination which in a given case may eventuate in diphtheria. No one has yet been able to trace diphtheria to sewer gas, to filth, to bad food, bad water or bad air, and yet any and all of these things may make all things ready for an attack of the disease, and

a cold may furnish the spark to set the tinder ablaze. It is, to my mind, the most arrant nonsense to talk about stamping out diphtheria. One might as well talk of ridding the ground of weeds or the sky of clouds. The attempt to eradicate it or to suppress it by means of medicines given by the mouth or hypodermically, is worse than nonsense. The only means in our power for controlling it are isolation of every case and the employment of such well-known sanitary measures as apply to typhoid fever, summer diarrhœa and other diseases which it is well known are aggravated and intensified by anything and everything which lowers the vitality and interferes with the perfect working of the organism.

I would exclude from school every child whose throat is not above suspicion, and I would quarantine every child with a sore throat in a family where there are other children. I would not permit a child who has diphtheria to return to school or mingle with other children until at least a month has passed since all traces of the disease have disappeared. In this way and by these means epidemics of diphtheria may be prevented and only sporadic cases will prevail.

Discussion.

C. B. Kinyon, M.D., Rock Island, Ill.: I protest against articles of this sort going in without discussion. Dr. Tooker knows as well as anybody that the mere fact that you cannot find the germ in every case is no proof that it is not present or has not been present. There isn't a shadow of doubt but that the specific germ is the cause of the disease. The germ is retained, but is not developed until the proper soil is present for it. I make it my practice every time, whether it is simply tonsillitis or a thin exudate or a typical gray membrane, of applying frequently (depending upon the amount of exudate) a spray of the Peroxide of hydrogen all around over the tonsils and throat, and then cleansing the throat properly with alcohol and Listerine gargle, and I have much better results than I did before.

Just a word about antitoxin. I fought against the use of it for several months, but I found this to be true, that there is a certain class of cases of genuine diphtheria (and by the way, I make a microscopical examination in every case before I use Antitoxin) where the patient rapidly becomes pulseless, and in my experience no power has been able to save them until I was forced to use Antitoxin. In one of the best families, a very intelligent man, a leading member of the bar and a judge, said: "If you don't use it I will call in somebody who will." I said: "Very well, I will use it if you will take the responsibility." He replied: "If you will use it, and be sure that your syringe is antiseptic, I will take the responsibility." I used it, but it did *not* improve in twenty minutes. I have seen re-

ports where they claim that within twenty minutes or half an hour or an hour the patient is out of danger. It was not so in this case. It took two hours. Then I saw the least little change, a change in the color of the lips. In four hours the child began to expectorate (this was a case of laryngeal diphtheria), and inside of twenty-four hours I considered the child out of danger, and it ultimately made a perfect recovery. Within the next six weeks I had eight cases that were equally serious. Seven of them recovered, five besides this. One of them died. Of course, I consoled myself with the thought that it would have died if it hadn't had the Antitoxin; but I do know that seven out of the eight recovered, and I am just as sure as I am of anything that every one of them would have died without it. I am a firm believer in Antitoxin.

As to the terrible after-results, I have not had the least possible bad result. I have used it in consultation and my own practice since beginning its use in something like forty-eight cases, and I am sure that of these forty-eight cases over 30 per cent. would have died by any other possible treatment, and of the forty-eight only three died. I am speaking of malignant cases, that were genuine malignant diphtheria. I do not use it in the milder forms. As long as everything goes well with the Peroxide I do not use the Antitoxin. There is a line of demarcation, if we may so term it, as to when it shall be used. Some say if you don't use it in the first three days there is no use in using it at all. That was one reason why I hesitated in using it in my first case, because it was the thirteenth day. Now, instead of using it within the first three days, I pay no attention to the fact of the length of time. I wait until I am satisfied I am not reaching the whole exudative surface with the Peroxide spray, and the system is becoming affected, then I use the Antitoxin.

As I said before, I do not wish Dr. Tooker's paper to go out as the opinion of the Homœopathic School, for it certainly is not our opinion. I feel safe in saying that 90 per cent. are in favor of its use.

G. W. Bowen, M.D., Fort Wayne, Ind.: A wealthy man lost two children with diphtheria; a doctor was called in and said another one must go. He said: "Doctor, if you will save that child I will give you $500. The doctor went to his office and got Arsenicum and gave it to the child, one-tenth of a grain every hour, for three hours. He said he saw an improvement; he was an Allopath. He took my advice and put the doses further apart. He then gave it two hours one-tenth of a grain of Arsenious acid; he went on two hours apart for about twelve hours. Then he came to me and asked: "What shall I do?" I said: "Go on four hours apart." He saved the child. He got his $500. Now, since that I have learned something; I haven't lost a case of diphtheria for three years. I had a case of smallpox and gave five grains of Arsenious acid, in five days, and brought the patient through it; he didn't have to take any antidotes for the Arsenic. That gave me some more knowledge of Arsenic.

There is no question but that this will either kill or save. I have since given the one-hundredth of a grain of Arsenious acid every hour until I gave three or four doses, and then further apart; if the patient improves, still further apart. I believe the Arsenicum *will* prevent decomposition, *will* prevent the formation of the diphtheritic membrane for other children exposed and to prevent it. I give the same medicine, only putting the doses three hours apart for three days, then six hours apart for three days; so if you should get too much Arsenic down you can give antidotes later. I learned that the Arsenic does not kill on sight; consequently you have time to antidote if necessary after you have cheated death. I have told several others of it, and while they gave Arsenicum in larger doses they saved their patients. I give you the knowledge I gained and I really feel that it is safe to follow. Now, I believe you can give the Arsenic and not endanger the life of the patient. I believe it is safe when you think the chances are nine out of ten against saving the patient, to try the Arsenious acid and run the risk, and you will probably save the patient.

THE CHAIRMAN: It was intended to have a discussion on the prevention of diphtheria rather than the treatment. The hour has arrived for closing. All the papers are referred to the Committee on Publication.

Sanitation for Invalid Travellers.

By Bushrod W. James, M.D., Philadelphia, Pa.

With all the modern extensive improvements in railroad passenger transport it is a most noteworthy fact that very little special attention has been given to fitting up proper accommodations for invalids, either for short or long tours, to and from the many health climates and resorts in the different parts of this country. Although we are far in advance of other countries in comfortable conveyances, great improvements can yet be made and adopted by our progressive railroad corporations, and probably those of all other parts of the world, if the proper inventive work and thought be inaugurated. Healthy and hearty tourists have every luxury of travel and sleeping comforts granted them for the extra consideration which they pay for the palace coaches and sleeping-car conveniences. Many of these people can stand draughts of air, cold or warm, and the various other measures which are a menace to invalids, and are also serious annoyances, positive discomforts and of great danger and risk to health and life.

It is a question, too, whether there are not more invalids travelling (specially at certain seasons) than there are of those supposed to be healthy, travelling for business or pleasure alone. A glance at the long list of health resorts in every part of the land will certainly convince the doubter upon this point, or else those who are travelling under the pretence of invalidism are nothing more than pseudo pleasure seekers under the mistaken idea of invalidism.

How, then, should a true invalid be treated by railroad companies in transportation from their homes to the distant health resorts to which their climatic prescriber has sent them? If the common smoker can have a special car set apart for his special pleasure and delight, certainly the women, men and children who pay an extra price usually for sleeping-car conveniences should have better accommodations afforded them, and greater care taken of their health by having an entire sleeping-car with extra comforts supplied to the invalid taking a compartment or section therein.

Some little variation in the construction of the car, with invalid

divisions set apart, would be worthy of the regard of the car-builders, and as they are all the time adding improvements to their new coaches, it certainly would not be amiss to pay greater attention to car sanitation for sick travellers. These divisions or sections should have steady ventilation.

Three years ago I prepared a paper for the Institute, in which I set forth the need of this great improvement, describing the requisites for such a car, one being that during transportation an even temperature ought to be constantly maintained, while perfect freedom from draughts should be guaranteed, and yet in the absence of rushing-in air, a fair supply should be forced into the car through many small apertures, and an exit of air by fewer or smaller ones, thus making a *plenum* of atmosphere for use during transportation of the coach, regulating apparatus being applied to put in motion and stop off the current of air, and furnish ozone and oxygen to the car.

These admirable methods have not been acted upon yet, as far as I know, by any railroad builders or corporations who may be engaged in passenger traffic.

Let us inquire, then, what are the conditions of good sanitation for these various touring invalids? First of all, are the points to which we have referred—even temperature, freedom from draughts a supply of oxygenated air, with such a *plenum* that when the car or storm-doors are open no cold or hot air will have a tendency to rush into the car, and by thus avoiding the in-rush of outdoor draughts, which are specially objectionable at all times, but more especially when the train is moving through a moist or malarial region of country during the middle hours of the night, when the passenger is asleep. The conductor should be educated on these points, and the porter as well, so that no chilling draughts be admitted to the car at any time, and more especially while the invalid is in his berth. In the next place, the conditions should be so changed that the invalid can add more, or throw off somewhat, of the night-berth robings easily and without discomfort, should he find himself overburdened with heavy blankets during the warmer season of the year.

Again, the method of putting a screen sash in the lower portion of the window frame of the sleeping section, even though thus guarded by a wire screen, and leaving it open upon the patient all night, regardless of rapid and strong chilling currents of air into the berth, while travelling through warm valleys, as well as cold

mountain regions of country, while asleep, is reprehensible to the last degree.

The meals, likewise, should be taken with regularity and upon the train, and nothing should be allowed to stop this essential of regularity of diet, evenness of quantity and palatableness, as well as a judicious selection of the articles of food for the travelling invalid. All needless noises and conversation should be stopped at a certain hour of the evening (say nine, or not later than ten o'clock), and the invalid should be allowed the same privilege until at least seven or eight o'clock in the morning, without disturbance or hindrance of a quiet repose.

The method of making sleeping-berths should be remodelled, so that they can be all put in readiness inside of half an hour, and tired or sick travellers not be compelled to wait until near midnight for a foul-smelling negro to make up his berth for him.

It is a remarkable fact that people who are in the habit of retiring at an early hour at home will remain up until a late hour in the sleeping-car, drowsy and dull, in preference to lying quietly upon their backs obtaining needful rest; while others who desire to retire early cannot do so under the present objectionable porter system. An invention should be gotten out that the passenger can work himself, by a proper mechanical device.

It is also preposterous that this matter should be simply arranged for the accommodation of the porter, and possibly for the conductor and a few people who have awakened too early, thus to have the car all thrown into a tumult at a very early hour unnecessarily, to the injury of the invalid. The tired or sick traveller pays for this comfort, and for that compensation he certainly is entitled to as much of it as he desires, and the corporation who takes his pay for these comforts should certainly guarantee them, and should see that every official on the train carries out the requirements of the strict railroad rules which should be adopted on all, and particularly on these invalid coaches, and even on all sleeping-cars, where people want to retain their vigor and health while travelling. It is as essential for a man to retain his health as it is for an invalid to regain his vigor; hence, some method should be adopted by which one or two travelling as an invalid and companion or nurse should not be compelled to take a whole section, and pay an exorbitant price for vacant space, because they happen to be on the sick list. And properly constructed sections, which will shut out the gaze of other passengers, and which will accommodate but two or three

comfortably, as most parties are composed only of the invalid and one or two attendants. Such conveniences should always be guaranteed to invalids, either in an ordinary sleeping-car or in a day car arranged specially for the purpose. The ordinary sanitation required for an invalid in his own household should be carried out to the letter, and with a few extra points the care of the invalid affected with any special disease, such as any careful sanitarian or medical adviser would suggest for these special cases. We do not know that every sanitary precaution can be effected in the small space of a sleeping-car section, but as many as can be should be carried out, for the benefit of the invalid, and not left, as at present, to the common mercy of an uninstructed conductor or to a careless colored porter, whose only object seems to be to earn his quarter from each passenger at the end of each day's work.

By the way, we never could see the justice of a railroad permitting any of its employees collecting a single penny from any of its guests who have paid full fare for first-class accommodations. The same thing might likewise be said about hotel-keepers imposing upon their guests, or even permitting any of their help or persons they may have employed about the hotel or boarding-house. The whole system is one of injustice, and one to be reformed in the speediest time possible. A travelling guest or a hotel guest should be treated as a friend, as he has preferred to place himself in their temporary care, and has paid full rate for the accommodations proffered, and not be looked upon as a goose to be plucked or a sheep to be fleeced, after his friendship is granted.

When a traveller places himself as the guest of a hotel keeper, and pays the regular rates which the hotel accommodations require, it should exclude him from any infringement on his friendship, by such petty annoyances as fees, hall noises, hilarious neighboring-room occupants or hall-sweeping noises of night chambermaids in the early morning hours, or banging of doors along the corridors, of early-train guests, for this should all be done quietly and at seasonable hours.

In fact, it is the railroad official's and hotel proprietor's duty to guarantee full and satisfactory services to every guest who favors him with his or her presence, and to supply comforts and care to all, for this is one part covered by the original expenditure of the guest or traveller.

DISCUSSION.

T. P. WILSON, M.D., Cleveland, O.: I am very glad of the sub-

ject brought forward in the paper, which is an excellent one. I, myself, brought it forward in 1878, before the Public Health Association. I don't know that I have allowed any one to precede me in calling attention to the life on wheels, which can be found in the transactions of the American Public Health Association. It was also published in full in one of the sanitary journals. It was entirely original upon my part. Many of the points have been mentioned by the paper, but some mentioned by the paper I entirely overlooked.

While I think that sanitation of cars is a very important matter, I think it may be pushed entirely too far. We step out of private life into public life, and we must expect that some things we cannot have; I think the essayist has carried it too far.

If people were brought up to have less fear of fresh air and be less nervous about noises, and make up their minds that they will have to have things different on the cars than at home, it would be much better for them. Doors have got to be opened and shut, and nobody is under the curfew bell to go to bed at 9 o'clock; and there are plenty of well people who would like to sit in the vestibule and have a little talk. As for having fresh air as you have it on the prairies, it is impossible; and some things demanded in the paper are, in my opinion, not feasible at all, but some things are; but the arrangement of living in a car without fresh air is absurd, whether people are sick or well, and if one does not like the windows put in at the foot of his bed, I don't know where he is going to have them.

I do not recall the other points, but some of them seemed to me objectionable on account of not being feasible, and I would say if people would only learn the value of fresh air, it may be they would not be so afraid of it when travelling. I would advise them to accustom themselves to sleeping out of doors—under a tent, on the grass, if necessary, sometimes—before they take their trip on railroad trains, get accustomed to those things, and then they won't be injured by them while on the road.

DR. JAMES: I just want to reply to Dr. Wilson, and say that in all probability quite a number of people, who are not invalids, in accustoming themselves to this draught of air that he speaks of, would probably terminate in pneumonia, and would probably have to employ the undertaker; a man don't want to employ the undertaker more than once, and that late in life; therefore, it will not be advisable for him to experiment much in accustoming himself to strong draughts of air. I am riding about from 11 A.M. to about 3 P.M. getting fresh air, almost every day, and I find it practicable to get accustomed to fresh air, but a person of sensitive organization is very likely to be injured by strong air-currents instead of being improved.

The point that I made was that the improvement was actually needed, and that it could just as well be made by the railroad companies availing themselves of their employees' talent in this direction. But the fact really is that they do not care to cater for the sick any

more than a hotel does. They want invalids to stay home or in the hospital. If these people employ the railroads, which they are entitled to do, instead of remaining home or in a hospital, they are certainly entitled to the benefit of the talent for invention which these railroad companies develop. and, like the Wagner Company and Pullman Car Company, could utilize this inventive labor to make their cars convenient for invalids, and one such car, at least, should be put on all through trains, for I know they would be amply rewarded, even if a little extra fee or fare was charged to overcome all their extra expense. My idea is that a car should be made constantly comfortable and sanitary, and be placed beyond the control of those who want a draught of air like a cyclone, and others who want no ventilation and will not be able to stand even a slight draught. It wants evenness of temperature and ventilation. If we can furnish it to a car at a temperature of about 70 degrees F., as an average temperature, it would be very valuable to the invalid as well as the healthy person. They should guarantee these the year round. The railroad companies should furnish their guests, the passengers, with fresh air, automatically and systematically, by some automatic apparatus that will operate while the train is at rest as well as while it is in motion. The travellers who do not want to ride in an even temperature ought to take another coach or a sleeping-car, where they can have it full of tobacco smoke, expectoration, strong, damp air-currents and everything of that kind. I am speaking of invalids, such as have a very long distance to travel, and it seems to me that there ought to be some provision by which those persons can be kept in a good, healthy atmosphere during the entire time, and especially when they need, desire and pay for comfort, they certainly ought to have it supplied the same as other passengers have their comfort looked after.

The Prevention of Yellow Fever Both by Quarantine and Sanitation.

By H. R. Stout, M.D., Jacksonville, Florida.

The problem of the prevention of yellow fever both by quarantine and sanitation, has, I think, been solved by the state of Florida.

The location of the state, the gateway to the tropics, the home of yellow fever, has rendered it particularly liable to the invasion of this foe to humanity. The southern extremity of the state being but a few hours distant from Cuba has made it necessary to call into requisition every appliance known to modern science to combat this foe. Previous to the years 1887 and 1888 there were no well-defined methods for the prevention of yellow-fever epidemics. Every county had its own board of health, acting independently of every other county. The demands of commerce made it easy to have intimate relations with Cuba, and in this way the disease was sometimes imported and concealed until an epidemic was fairly started before the public became aware of the calamity that was about to overwhelm them. In the summer of 1887 the disease appeared in Key West, brought from Cuba, and from there was taken to Tampa, and several other points in that portion of the state. This, of course, led to the quarantine of that section of the state, and it was practically fenced off by a "shot gun quarantine" from the more northern counties. The disease raged in these cities during the summer and autumn, and for want of proper supervision and sanitation the germs of the disease were allowed to hibernate, and early in the summer of 1888 came rumors of cases of yellow fever at two or three points where it had prevailed the previous year. On the 28th of July occurred the first case in Jacksonville. This was soon followed by others, so that by August 10th it was declared by the authorities to have assumed an epidemic form. From that time it raged until, for want of material, it died out the latter part of November.

The sad experiences of these two years roused the people of the state to the necessity of vigorous measures to prevent such calamities in the future. The fact was recognized that ancient methods must be abandoned, and that the cumbersome and inefficient ma-

chinery of county boards of healths must be superseded by what may be termed a central station and power house. The governor called an extra session of the legislature in February and a law was passed establishing a state board of health, composed of three members. This board was empowered to appoint a state health officer, who should be an expert in the diagnosis of yellow fever, smallpox, cholera and other infectious diseases, and of recognized ability in hygiene and sanitary science. This board, with the state health officer, superseded all county boards except at Pensacola. The state health officer, with the approval of the board, appoints sanitary agents in each county who are required to report to the state health officer any defects in the sanitary condition of the county or towns, and the state health officer is empowered, if the proper authorities fail to remedy these defects, to adopt such measures as will bring about a proper sanitary condition.

The state health officer has entire control, under the state board of health, of all maritime and domestic quarantine systems of the state. The quarantine system over travel and commercial intercourse between the ports of the state and other ports shall be maintained from the first day of May to the fifteenth day of November. All vessels arriving at a port are required to be inspected, and if from any port suspected of infection with yellow fever, shall be subjected to disinfection before entering any port of the state. The state has provided disinfecting stations at the ports of Pensacola, Tampa and Fernandina fitted with the most complete appliances for the thorough cleansing and disinfection of vessels and cargoes. When necessary the hold and wood-work of the vessel are first washed with sea water followed with another washing with a Bichloride of mercury solution, or disinfection by steam. Fumigation with Sulphur may also be used. Clothing and bedding shall be disinfected by superheated steam, Bichloride solution or Carbolic acid solution. Vessels coming from an infected port shall be detained not less than five days after disinfection. By the strict observance of sanitary rules the Plant Steamship Company is able to maintain its line to Havana through the summer. The steamers are built especially for that trade. The hold is thoroughly ventilated, and twice a week it is washed with a Bichloride solution. The ship enters the harbor of Havana after sunrise and leaves before sunset. No one of the crew is allowed to go ashore, and the ship is anchored away from the docks. No passenger is permitted to come aboard without a certificate from the United States Sanitary Inspector showing that

he is acclimated by a continuous residence of several years in the tropics, or that he has had yellow fever. No baggage can be taken aboard ship unless it comes from a house where there was no yellow fever, which must be learned by a personal visit of the proper officer to that house. On board ship the trunks, etc., are opened, and they and their contents are sprayed with a Bichloride solution, or disinfected with Sulphur fumes. This fumigation is carried on in a close chamber, and lasts during the voyage. Since the adoption of this quarantine and sanitary system no case of infectious or contagious disease has been introduced into the state, a period of seven years. and there is no reason to apprehend that there will be in the future.

As showing the value of sanitation and quarantine, let us glance over the history of yellow fever. In the past one hundred years it has prevailed in Boston, New York, New Haven, New London, Providence, Philadelphia, Baltimore, Norfolk, Portsmouth, Staten Island, Charleston, Savannah, Galveston, Pensacola, New Orleans, Jacksonville, Memphis and many other cities and towns. Among the cities of the North the disease failed to find a foothold, as improved sanitary measures prevailed, until, finally, epidemics of yellow fever were unknown. The Southern cities were slower in adopting these measures, and in consequence suffered longer. The value of sanitation was exhibited in a most striking manner at Memphis, which from a terrible experience, extending over several years, learned the lesson of cleanliness, and is now a model of sanitation and healthfulness. The system of drainage, of which Col. Waring is the originator, made a healthful city of Memphis, and has been adopted by my own city, Jacksonville.

It can be set down as an axiom that yellow fever cannot live when cleanliness prevails. A case may be introduced into such a place, but the germs will die for want of nourishment. As Dr. Walfred Nelson pertinently states: "If there is a disease known to the profession to-day that can be manacled, confined or hemmed in by quarantine, it is yellow fever," and I will add there is no disease that can be so surely exterminated by sanitation.

Discussion.

C. E. Fisher, M.D., Chicago, Ill.: I have not had a very extensive experience with yellow fever, but know that it has been shown by the experience of New Orleans, Jacksonville, Tampa, Memphis and other cities that the disease can be prevented in the South, and that, therefore, those sections are not more liable than Northern sections, provided the details looking to prevention are carried out faithfully

and intelligently. As to the details of ship inspection and quarantine, it is not necessary for me to discuss these; the author of the paper has been sufficiently explicit in giving them. I think perhaps we can get on without resorting to chemicals, relying upon fresh air and steam; but that is something for the future to determine.

In regard to the preventive measures to be practiced by individuals I wish to say a few words. During the epidemic of 1878 I visited Chattanooga as a volunteer physician and treated yellow fever for several weeks. The death-rate was larger in proportion to the total number of persons afflicted than any in the South. I don't think my visit had very much to do with this fact, but it was an unusually unwholesome city. The battlefields of Chickamauga were close at hand, and the conditions were ripe for the introduction of yellow fever and other germs, and as a result they had an awful time of it. I had been carefully watching the situation. Several physicians had died, others were sick at the time. Chattanooga was the one city that telegraphed for more medical help. Most cities had plenty of medical help, but Chattanooga lost so many physicians and so many were sick that help was asked for, and it was in response to one of these calls that I went to the city. I was in Georgia on my bridal tour and I was interested, and my wife was interested, in my escaping the disease. Therefore I was very particular in taking care of myself. I soon discovered that the fatal cases were almost entirely limited to people who were used to intoxicating liquors, and if not to those who were used to intoxicants, to those who were dyspeptics. The dyspeptic subject, and especially the drinker, suffers from black vomit and suppression of urine. It came to be noticed by all. The mayor of the town and the chairman of the local relief committee one afternoon suggested to Dr. Sims that he would probably have to preside at the meeting next day, as he was not feeling very well. The afternoon of that day he died. He was not a hard drinker, but was in the habit of sampling liquors with purchasers. It came to be an axiom among ourselves that those who were tipplers would die, and those who were not tipplers would not. I do not think we can dwell too strongly upon the necessity for personal sanitation in any city where Asiatic cholera or yellow fever is prevailing, and that those who are troubled with their stomachs, predisposing to nausea on slight provocation, who are unable to bear offensive odors, had better take to the woods and let the others take care of themselves. They only furnish food for the fever to feast upon. I think when there is an invasion of yellow fever we should introduce the strictest quarantine measures. Then we should do the very best we can to put our citizens in good sanitary condition; for just as it is the duty of the state and the municipality to take all precautionary measures known to science for the protection of their people when an epidemic disease is threatening or on, so is it the duty of the individual, for the good of himself and those surrounding him, to exercise all possible preventive measures in his individual self. Every addi-

tional case begets others. No citizen has the right to so live that he shall die when in dying he endangers his fellows. I cannot too strongly urge the necessity and justice of individual sanitation in the face of any and all epidemic diseases.

BUSHROD W. JAMES, M.D., Philadelphia, Pa.: When the American Public Health Association met in the City of Mexico some years ago, this subject came up for debate, and the desirability of having international regulations by which these diseases, and especially yellow fever, could be kept out of each other's country. In one of the cities—Vera Cruz—located along the Gulf of Mexico, in the low, moist section of the country, for several miles back before it begins to reach the mountain side, they have yellow fever in the damp and untidy parts of the city all the time. A railroad runs over the mountain back into the further country towards the City of Mexico, which lies in a large mountain valley. I discovered that the Mexican authorities had taken the precaution in their quarantine regulations to keep out the yellow fever; they could not keep it out of the low-lying towns, because its habitat is there; but the cases that come in on shipboard from other places are sent to a special yellow fever hospital away back in the mountains, say fifty miles from the town, and these cases are sent at once by the quarantine officer to this hospital, where it is too high and too cold for the disease to propagate or continue long. These cases get along very well if they are not injured in the transit, and in that way practically it is equivalent to sending a case up to some frosty place in the north, but the distance is too far, and they are beginning to avail themselves of the higher hills. They cannot do that very well in Florida, but they might select some spot away from the cities in some isolated place, where they can segregate the cases. We all know they must be taken in their incipiency in order to prevent an epidemic. We all know how easily the disease can be carried by rapid transit. Railroad express trains from Jacksonville in less than forty-eight hours can carry the disease to our Northern cities; where they used to come in by vessel, they now come in by railroad train. Unless the sanitary authorities of every city are on the alert, they will sooner or later get epidemics if they do not keep them out as they are now doing by sanitary precautions in all the larger towns.

I, years ago, in Washington, suggested that every country should protect, by its quarantine, both the ingress and egress of any cases of these epidemics by stopping them at all ports by seaboard quarantine stations in all these countries; I urged that, but it has never been very generally adopted. I suggested the idea to several of our members of Congress when the law was under consideration that they should aim to act on this idea, and as far as they could to get our consuls to report epidemic cases, and not let the vessels have a clean bill of health until they could show that these people had not been exposed to cholera or yellow fever.

DR. STOUT: With regard to having a hospital ouside of the city,

at Jacksonville, a hospital was established about there miles out of the city in the pine woods, and it was a significant fact that none of the physicians or attendants of that hospital had yellow fever, although three or four hundred cases were treated there, which showed the sanitary conditions were so perfect the germs could not live, and every one escaped but those who had the disease already.

The Prevention of Neurasthenia in Brain Workers.

By Sara J. Allen, M.D., Charlotte, Mich.

When Dr. Hood, in his talk on Friday, referred to the magnitude of the subject of neurasthenia and lack of power to compass it, he touched the key-note of the difficulty under which we labor. We are not able to tell why a stream of water follows the law of gravitation and takes only a downward course, but we know we may place impediments and divert it from its way, stop the supply at the fountain-head and sooner or later it will become exhausted.

The streams which are feeding this one of great magnitude that is moving on more quietly than the mountain brook, because of its depth and volume—but the object of our effort being to lessen their impetus and retard the final result—are countless in number and re-enforced by those obscure and less apparent excesses—overwrought bodies, brains and hands, anxious days and sleepless nights, habits the result of necessity, choice and vice—our aim being not to recount them, but to seek a means of prevention.

One advises to begin in infancy and farther back, and by judicious training make evil good. Another points out the folly of certain life with its environments, and could we follow her design and pattern there would surely come a time when this poor nagged and weary nervous system should become so strong, so thoroughly protected, it would not yield to the ills that now beset it.

It has been a pleasure to listen to all the good things told us here, and if we take not with us an inspiration for better work it must surely be our fault.

A study to prevent a lesion compels consideration of its causes. We know a protracted strain or muscular fibre will in time deprive it of power to contract, where repeated relaxation and contraction of those same fibres may strengthen them; so also with nerve tissue, if exhaustion be not too often repeated with no relaxation.

But when we put upon these cells, pressure of enforced effort for continuous hours we take from them their power to rest, and there begins our trouble. To know the limit of endurance the forces are

able to stand and not become enfeebled, requires a niceness of perception not accorded every practitioner, and while the interested ones themselves may have an inner consciousness that they are reaching the limit of their endurance, they heed it not, for with this conviction comes the impulse to press on in the discharge of the duty just as long as they can whip the suffering cells into line to do duty. They are overwhelmed with the dread of enforced idleness, sometimes because want peeps in at their doors, sometimes because greed spurs them on, but an insatiable thirst for their regular work impels them to so great a degree that we can, only with the greatest difficulty, secure even a partial rest for them.

Tell me, you who read the motives of the mind, why does this thirst, this love of gold, or dread of relaxation, come to make doubly sure their destruction, unless it be "Whom the gods destroy they first make mad," not as our brother told us, "Whom the gods destroy they first make fools?"

I have two cases in which this determination to go on with their work has settled their accounts, and they but wait the final balance, and I firmly believe both might have been rescued could they have been persuaded to take the needed rest.

One a cashier and bookkeeper in a mercantile house, the other occupying the same position in a large bookstore. The former on the verge of brain softening, the latter creeping paralysis. The same tenacity of purpose characterizing the one as the other.

It is a fact, drain on the system through exercise of the nervous forces requires better nourishment than for muscular wear. This is too often lost sight of, and time and again the brain worker is least attracted to food that meets his requirements. Not quantity, but quality, is of the greatest importance here as in other places in life

Our brain workers disregard physical demands for rest and sleep and, as that delicate organ is most active when holding the circulation with undisputed power, they use the hours for sleep and digesting to crowd it to the utmost. Work properly performed never hurts any one. Take care of the body with regard for the demands the brain makes upon it, and brain fag does not haunt the desk and table.

"But I cannot sleep," so often they say, and in place of looking for the disturbance—finding the loose screw, if you please—they try by opiates and narcotics to still this cry, thus adding fuel to the fire. No one ever gained anything in sleep or rest by thus numbing the active filaments of the brain.

Shut in close, overheated rooms they labor days and weeks and years, each year calling for more fire and shutting out God's kindling-wood, oxygen; substituting artificial light for God's builder and purifier, the sun, and wonder why they shrink and dwindle under such living. Why they shiver and take cold if a breath of air comes to them during working hours. Telling you all the time how much they get out. They go here and there for a ride or walk, but they avoid all discomfort, and too much air and sunlight are counted such.

For one brief week subject the health-growing plant to the life and air in which they spend the major portion of their time and it will have lost its freshness, the blooms refuse to develop, the leaves become yellow and fall, and yet they, and you too, all too often expect to enjoy a measure of health in such an atmosphere. Give our brain workers, man or woman, the same amount of sunl ght and oxygen the carpenter and general laborer have and they will develop red corpuscles and do better work.

It is a false impression that one may not sit and sleep with fresh air blowing over and about them if accustomed thus to do, that the eyes cannot endure the brilliancy of the sun provided they have it regularly. The trip on launch or wheel does invigorate and aid, but they are too transient to overcome the four-fold hours shut from them, the continual strain on muscular fibres weakens its ability to contract, while relaxation and contraction strengthens it. Apply this rule to your nerve fibre. We have examples where the power to recuperate is lost through lack of needed relaxation. If through routine work, then S. Weir Mitchell would call it wear, and prove to you that rest sufficient will renew it. But when there is added the chafing, carking cares of life, that he calls tear, your case soon becomes hopeless.

After continued repetition of work they become so mechanical in its performance that they will add long columns, go over intricate transactions and feel no strain of thought in doing so, even after we are aware they are on the verge of serious brain complication. When this exists must we not look farther for other causes that have sapped their vigor and are sure to verify the former statement?

I cannot believe that work alone kills people, be it mental or physical. Lack of sleep and recreation, improper food, or proper food improperly prepared, bad air, persistent application for weary hours when body and brain are not sustained by hope may do it. Satisfaction in the work they do, power to be cheerful and bright are necessary adjuncts to healthful labor.

It is also true our climate influences power of endurance, and we should guard our brain-workers on a line they are not apt to consider. Our English neighbor is able to give prolonged hours of intense mental effort to his business with less weariness than are we. Our own brain-workers have told us they could endure much greater mental strain there than here, feeling the change on their return.

Woman, with her complex temperament, is doubly susceptible to the restraint of a shop and office. While she who enters the home of another misses the responsibility and the tear of life. It has come home to me very forcibly of late that the home-keeper who makes a success of it requires more brain power and quicker intelligence than any other class. A double portion of both wear and tear come to her because of the varied ways she must think and act at the same moment.

To plan and manage the different departments of a household, to remember in detail all its requirements and bring them into line at the right moment must have skill second only to the general who manœuvres his troops and with the ten thousand details that never touch him. The physician's wife who can add to all this an interest in his work is indeed a queen among women, take care of her. But we would relieve these overburdened souls all around us. The American table has taken an advance step in simplicity; aid it by your advice. Woman's attire may be less simple, but it is arranged with more regard to the comfort of the wearer than formerly recognized with a smile of approval, for through these lines must we reach to relieve many a sufferer. Encourage reading, recreation in its many forms, educate the people to the thought they may have agreeable things to do, for it has been ably demonstrated that pleasing work does not tire so quickly.

Too many select work from necessity, not from choice, and while Gannett has so beautifully shown us that drudgery may become a joy, it is not easy to make the multitude see it. I believe he is right, and when one has learned to idealize his work, if he have not his ideal work, we shall have fewer pale and shadowy men and women. Give any one pleasureable, satisfactory occupation and they will be happy, add to this fresh air and sunlight and they will be well. Give them, I say, congenial employment and you will oftentimes curtail your fees. Idleness is not rest, even the restless insane given light employment become quiet, and we know they are not so hopeless cases as the one you are not able to rouse to action. This is no light problem. We can advise more wholesome

surroundings, better lighting and ventilating, longer hours of sleep with frequent vacations, resting places of change of scene and thought, and still there are those we have not been able to touch. They are not able to leave their cares, and they are a large class. What can we do for them?

DISCUSSION.

THEO. Y. KINNE, M.D., Paterson, N. J.: I do not know that I am competent to discuss this subject, because of the appellation applied to me a few moments ago by the head of this section.

Rev. T. DeWitt Talmage once said: "If you are in a sphere of work where there is fret and friction, you are in the wrong place. Get out of it; find some other kind of work."

As I note the titles of these papers, we are not supposed to discuss the cure of neurasthenia, but its prevention. A noted man once said: "If you wish healthy children, begin with their grandmothers"—which was good. If you wish to prevent neurasthenia, be sure that you never get into a place where you are overstrained. I do not believe it is overwork that produces neurasthenia. You take the class of people that do the physical work of this country, and they are not neurasthenic patients; they are not even sexually neurasthenic. It has come to pass in our civilization that those whom we class as in the higher walks of life are deliberately doing what they can to thwart nature's processes. It is the result, perhaps, of heredity; it is the result of an artificial way of living; it is the result of artificiality in other directions that are making this home of the American citizen to be peopled with foreigners, and not the native-born.

Worry is the first cause of neurasthenia. Prevent it by ceasing that most unfortunate thing. Make it your business to do that which is before you, and quietly rest with the expectation of leaving some things undone.

I once knew a friend, a man who did as much mental work as any man I ever have known; a man who, with business complications, we thought would become insane; and yet, by deliberate determination to simply do what he could and leave the rest with his Maker, he attained the habit of life by which, when he left his professional establishment, he left all his business cares there. I have known him to work until ten or eleven o'clock at night, go home, lie down, and, in five minutes, sleep the sleep of the infant until the morning sun dawned again. Not all can do that; but that is a thing to be striven for; to lay deliberately aside everything which gives annoyance, anxiety or worry. The poet says most beautifully

> "Rest is not quitting the busy career,
> Rest is the fitting of self to one's sphere."

I think there is a great deal of truth in that. Recreation is what

we need; change of occupation brings *re*creation or recreation; doing something diametrically opposite to that which is your ordinary life-work. Drop the study of your cases and your materia medica; go out into the fields and woods and study your botany, and it is the best remedy for neurasthenia in the world. That is the thing to do; we need it. As has been said: "We live too rapidly, we eat too rapidly, we do everything too rapidly, and die too rapidly; die before it is time;" and old Solomon knew it, and he looked down on the nineteenth century, and with prescience saw we were going to do that very thing.

Change of occupation is another prevention. Cessation from worriment is the first, change of occupation is the second, and a due amount of rest is the third. Taking those three things, and carrying them always with you as cardinal principles, the cases of neurasthenia will be far fewer than we have now; the work we are called upon to do in this most discouraging class of cases will be simpler and our results much better.

Sexual neurasthenia I look upon as much a secondary condition as a primary, being dependent upon early education and irregular habits of living more than upon methods of work. These things done away with, you, as physicians, counselling them in the highest of all your occupations, of all your work, that of trying to inculcate in them habits of correct, temperate, steady way of living, and your office as prescribers will be much less.

Those of you who remember, some years since, when you entered a society to which many of us belonged, may recall that it was enjoined upon you that you should apply eight hours for labor, eight hours for rest, and eight hours for the relief of the distressed worthy brother.

ROBERT WALTER, M.D., Walter's Park, Pa.: A good many of us are not able to take eight hours' rest. I have never been able to get through my work in less than sixteen hours a day, and I have had to keep it up for about twenty years without relaxation. I commenced the study of this subject thirty-eight years ago, when I was given up as incurable from heart disease, hemiplegia and nervous prostration. I then conceived the idea that there is a way to live exactly right, which if a man does he will grow into health. I have found that way, I think, and for thirty-eight years I have been enthusiastic on the subject of living exactly right, and I recovered my health perfectly by it. I think I have learned how to maintain it as well, and I have restored thousands by the application of these principles, without a drop of medicine. It is want of knowledge on this subject which causes such great variety of practice. If you go through this audience and ask this man how he feeds, and then that man, they will describe opposite ways; and the same if you ask about clothing, about the prevention of colds and coughs and consumption; each man has a notion of his own, follows out his own way, which is different perhaps from all the others, and I venture to say that all the ways cannot be right. Each one

has his own notion, and in nine cases out of ten each is wrong in some particular. Uniformity of practice can never be obtained until the law which determines results is understood and applied. Samuel Hahnemann gave us that law—but he failed to formulate it, and it was restricted in his mind to the use of morbific agencies as medicines. when in reality it applies to every fact and act of a man's life. The important thing is a correct formulary from which reasoning may be conducted and conclusions drawn. I have written a paper upon this subject, to be read this evening in the Section on Clinical Medicine, in which I discuss it and show the application of Hahnemann's law to eating and drinking, clothing and exercise, etc., and developing, as I believe, the only true principles of sanitary treatment. For sanitary treatment is, of course, as varied as the notions of man on sanitary subjects. There is no uniformity of practice among sanitary institutions, for there is no law to regulate the practice. Once formulate Hahnemann's law, and apply it to all vital activities, and you will not only preserve health in the well, but restore it to the sick, with a certainty not attainable under present methods.

F. PARKE LEWIS, M.D., Buffalo, N. Y.: I beg the indulgence of the section in speaking before this section; nevertheless, one can hardly be engaged in work in some special department, as that of ophthalmology, which is a finer division of neurology, without being interested in every neurological subject. In conversation with Dr. Mitchell, of Chicago, a few days ago, he made this statement: "When the urine passed at night exceeds in amount the urine passed in the day time we have already developed renal disease, which is serious in its nature." I asked him why it was that in conditions of that kind the urine at night exceeded the urine of the day time. He said the only explanation he could offer was a theory, and that was that the poisonous elements had been retained in the blood, and as the kidneys did not sleep, the irritation of the kidneys caused an excessive secretion of urine at night.

I was very much impressed with the idea, as Dr. Allen was reading her paper, that there are several underlying fundamental principles which must be recognized in neurology. The chiefest of these is the importance of the toxic poisons reabsorbed or retained in the system; and it is a very profound question, which may be solved in the near future, whether neurasthenia is not directly dependent upon the retention in the system of a definite toxin.

Professor Gates, of Washington, has made some experiments, which he has verified over and over again. They were based upon these lines: He took the secretions of the body, produced under various emotional conditions. He obtained from these secretions alkaloids. He used these alkaloids in toxic doses, or in varying doses, on animals; and he found that the alkaloids produced from happy mental conditions were innocuous, while those obtained under conditions of depression, anger, fear, were poisonous, definitely poisonous. That that is so we know from the fact that a nursing

mother can hardly have an attack of anger without making a sick child. Just how and why that comes we do not know, but Prof. Gates has carried these experiments to such an extent, under the most thoroughly scientific tests, as to definitely prove that material conditions make it possible to obtain from the secretions alkaloidal results that are either toxic or non-toxic, as the emotions govern the secretions. This leads again to the question as to whether many of the disturbances of a nervous nature with which people suffer may not ultimately be dependent upon imperfect metabolism. You must rest, you must sleep; but suppose there exists a toxic condition of the blood which causes nervous irritation of the brain, which makes sleep impossible, which impels that continued nervous excitement, which impels continued work. I think Dr. Walters probably has the right idea in going back of all that and determining the nature of the secretions, under proper sanitary and hygienic conditions, by making the metabolic changes of such a character that the nerves and nerve-cells are properly nourished. I don't know whether it was brought out last year, but Stanley Hall, of Clark University, has proved that fatigue absolutely modifies the nerve-cells.

I raise these questions not vaguely, but only that we may follow right lines of thought in the conclusions which we may reach. Important as psychological influences are, and important they are undoubtedly, we must also bear in mind that psychological conditions, mental conditions, may be dependent upon metabolic conditions, and each reacts on the other, and the whole must be considered in so important a condition as that of neurasthenia.

DR. ALLEN: I would like to ask if the influence of light and air were not considered.

DR. LEWIS: Unquestionably, they are important. All of the sanitary rules suggested are of the greatest importance, but it is not entirely psychological, nor is it alone metabolic; each acts upon the other.

CHAIRMAN: Subject is open to discussion. Dr. Allen, may we have a few words from you?

T. F. ALLEN, M.D., New York, N. Y.: I don't know as I have very much to say about it. It is a subject that interests every practitioner of medicine. We are constantly consulted in these cases. In my observation, the most prevalent cause of neurasthenia and all kindred troubles is the use of stimulants by men and women. Our business men cannot take a vacation just now, and they have to drink a cocktail two or three times a day to keep up until the time comes when they can get away; that time does not come perhaps for a long time. I myself came one day to the realizing sense that my resources were being exhausted. Coming home after a hard day's work, I found it very grateful to drink a cup of tea, was

very much refreshed by it, and was quite able to do my afternoon office work; but when it came to be nine, ten and eleven o'clock at night I did not care to go to sleep; I would sit up and work; so, after a while I stopped tea drinking; I was wearing myself out very rapidly. That is my own personal experience. I have found out by observation that the habit of tea drinking is extremely pernicious, not so much on account of the effects of the tea, which are bad for me, but that the tea destroys the ability to rest or recuperate. I do not have the chance to get rest. It is very much so with tobacco in men; it is quite as bad as tea for women. Both habits are bad enough, and I am becoming year by year extremely disagreeable to many of my patients in the way of stopping their cocktails and tobacco. They say, "Goodness gracious, doctor, won't you leave us anything?" I say, "Nothing, nothing." People make the constant mistake of exhausting their nervous energies until they are on the verge of prostration.

One of the essayists spoke of the ability to rest, the sunlight and air as factors for the prevention and relief of neurasthenia. One reason why we defend the use of the wheel so much is that it makes people interested in living in the open air and out-doors a great deal.

I said to a young man not long since, a marriageable young man: "It is all very well to look at our country girls, but if I were you I would look at the Fifth Avenue girl." My observation is that a Fifth Avenue girl has rosy cheeks, strong muscles, lots of recreation and plenty of rest, and is well taken care of; while the majority of country girls are pale-faced, overworked, have too little recreation, and die of consumption or get nervous prostration or go to the insane asylum. The Fifth Avenue girls will make better wives. And I find that our well-to-do people, people who are intelligent and have time to think of the matter and read up on it, take better care of their families. If we can influence people to leave off these habits of stimulation, and give more attention to bathing and clothing, and all these other matters, we will do a great missionary work.

T. P. Wilson, M.D., Cleveland, O.: I do not suppose I have any right to speak here, except the inalienable right of every American citizen to put his nasal organ into everything that he deems interesting.

I want to say a few words, laying emphasis upon the fact that our sidewalks are covered with tobacco juice, not only sidewalks but steps into the buildings. I would like to ask what is done with that compound element, carefully swept up by the dear ladies with their skirts? You can tell when a lady has gone down street early in the morning, when she has been preceded by workingmen, who spit to the right, spit to the left and spit to the front. I say to you, ladies, shorten your dresses. Don't think you fool us because you have taken off the braid from your skirts. I have made something of a study of the matter; may be a morbid study. I think it is.

One-half to two inches of ladies' dresses show the eternal nastiness of the methods now pursued in keeping our sidewalks clean. Instead of hiring a proper sanitary department, they get the ladies to go out and do the work for them. I might ask you ladies to go home and look into your closets and shake those skirts; put those accumulations under the microscope; if you cannot find microbes there of all kinds, then I am mistaken in the quality of the things you sweep up.

The idea of sanitation is that everybody should be kept from getting sick. The idea of medicine is that doctors shall cure everybody that is sick, and if sanitation prevails there will be no sickness; and if there is no sickness there will be no doctors, and we are reducing ourselves to the *reductio ad absurdum*. Now, I can sympathize with doctors giving away their bread and butter after this time. No doctor of medicine is personally interested in the question of sanitary science, except that he wants influences about him that will keep himself and his family free from disease. He is interested in it just as his next-door neighbor is—to keep his family in good health—no more nor less. You want and he wants good streets, fresh air, and all that, as a family and as a man. He doesn't want anything as the doctor except sick persons. But there isn't a man, from the livery stable keeper to the mayor of the city, but that is interested in the question of sanitation, and we, as citizens of a common republic, should take an interest in everything in the way of health.

JULIA H. SMITH, M.D., Chicago, Ill.: I had the pleasure of reading rapidly Dr. Allen's paper, and desire to emphasize its value and especially its trend toward the prevention of neurasthenia, the "American Disease." One of the very first essentials, it seems to me, is to go back to the very beginning of things, and realize the responsibilities of the mother. There is a great deal of unnecessary discipline wrought upon babies under the advice of physicians and by the counsel of stupid nurses; for instance, many would require the child to lie still, saying to the mother, It is all a matter of habit, put the baby to bed and it will be all right: let it cry, it will get into the habit of going to sleep, and this I think is the beginning of a great many of the nervous difficulties of children. We have to consider the grandparents' nerves when we begin to take care of the babies, and the chances are a thousand to one that the child was born to a nervous heritage. The nurse puts it upon its back, and the circulation is not as perfect as it ought to be, for, unable to turn, it lies for hours in one position, and the child gets restless and fretful, and the expression of discomfort is a cry. The desire for the cultivation of good habits in her child leads the young mother to say: "Dear little baby, lie still; mamma wants you to go to sleep." And with a real heartache the conscientious, loving mother lets the child positively suffer then and there, before the baby is two months old. Oh, mother! let your love balance your judgment; don't be too strict, turn the baby over, rub its back, shake the cradle, and you

will do wisely. Again, every child must have a bath, whether it likes the bath or not. Now, I have seen enough of babies to know that some of them are constitutionally averse to water, and the washing should be done with some sort of attention to the baby's nerves. We should realize that the moment the baby comes into the world, it has its individuality which must be respected, and the method of the bath should conform to that individuality; again, there are hundreds of children that cannot eat the same things that other children eat, and each individual baby's stomach is a study; therefore the food at the table ought to be considered for the different children and the taste respected until it is cultivated. Too many children have meat given them in excess. The mother says: "Why, Dr. Smith, it seems to me that they have the right to eat the things that other people eat;" and I believe that a great deal of the nervousness of the American people is due to meat on the table three times a day. The child sees it and wants it, and the fretfulness comes because it is refused; at the table, where conditions should be only pleasant, there is self-denial exacted of the small boy or small girl that ought not to be demanded. This is an argument for us all to encourage the old-fashioned nursery dinner. Many parents think the manners of the children are of great importance in babyhood. Obedience and loving courtesy are easily taught, and it seems to me that when little children come to the table they should be allowed to be happy and gay. The old-fashioned nursery dinner was a blessing, where the conversation of the governess, the nurse or the mother was adapted to the child's habit of thought and the child's comprehension, and while they ate their bread and milk or whatever the meal happened to be, the little mind should be left in peace and quietness; in this way children come along, with as little friction as possible, to the time when nature demands greater resources and the youth will be better able to meet the changes incident to the time of puberty, and that boy or girl who has been saved from annoyance and fretfulness in infancy will come to maturity with perfectly well-poised nervous condition and able to meet the emergencies of life.

Autoprophylaxis—Every Man His Own Germicide.

By John P. Rand, M.D., Worcester, Mass.

Infection and immunity are the alpha and omega of pathology. To know the one and fully to understand the other implies a corresponding knowledge of disease. To the careless observer nothing is more simple. To the thoughtful student nothing more profound. The physician of the past studied mainly phenomena. The physician of the present is ever asking why. I wish I could bring to you the ultimate verdict of science to show that all these knotty questions of pathology have been answered. I wish I could even assure you that our knowledge of infection was supplemented with a corresponding knowledge of prophylaxis. But the fact is, with all our attainments, we know but little. As we look ahead, it seems as if we had everything to learn. And yet, compared with the standards of twenty years ago, a great deal is known. In Lister we see the dawning, in Koch the clearer day. What Joshua shall lead us on until the walls of superstition and ignorance no longer hide the citadels of disease?

But to my theme. John Bunyan in his *Holy War* made immortal the town of *Mansoul*, and in it and around he drew his master picture of attack. With equal touch I would I might present to you a picture of *mansbody* engaged in most unequal combat with disease.

And first, what is disease? So far as known, in most instances, it is the result caused by the entrance and multiplication of hostile germs within the economy. In many forms these germs have been distinctly recognized, and are made to grow in cultures as flowers in the sun. We see, touch and handle, yes, more, produce specific diseases at will. In other diseases the specific causes have not been discovered, but, as all forms of life must be governed by the same general law, it is fair to suppose, at some future day we shall find them out.

A curious fact has long been observed in connection with certain forms of so-called contagious diseases, viz., that a person once affected was ever afterwards immune, and no amount of exposure in

such an individual would produce a second attack. The question then arose, To what is this immunity dependent? and the profession to-day is still grappling with it.

In 1880 Chavreau suggested that immunity came from some bacterial product *stored up* in the tissues by reason of a single attack which prevented the development of the same organism should it again gain entrance into the system.

Pasteur, on the other hand, claimed that the same immunity was due to an *abstraction* from the tissues of some element necessary to the growth of the infecting germ.

In 1884 Metschnikoff published what has since been known as the doctrine of phagocytosis, the principle of which is, that the wandering blood-cells, or leucocytes, have the power of taking up and even digesting any micro-organisms with which they come in contact.

But Nuttall in 1888 demonstrated that blood serum, when quite free from all cellular elements, possessed the same power of immunity, and many have since confirmed his observations. Among others Buchner, who carried these investigations still farther and sought to distinguish the particular element in blood serum to which immunity was due. In the course of his experiments he found out that a dilution of the serum which, with distilled water, would destroy its germicidal action, could be made with a 0.6–0.7 per cent. solution of Sodium chloride without producing such effect. Stranger still, he found that the germicidal power of the serum was greater when alone than when the cellular elements of the blood were present.

Though apparently refuting the theory of Metschnikoff, he did not deny the observations of the latter, but explained the phenomena by the assumption that in the serum alone the germicidal element predominates. Whereas, in the blood as a whole it is overbalanced by the nutrition afforded by the disintegrating cells. The leucocytes, however, have a most important function, not in destroying living bacteria, but as yielding, to the body fluids, defensive proteids, of which Sodium chloride is an essential constituent by which the toxic products of germs are overcome, and this view, perhaps, comes as near to our present knowledge of the subject as any, for Abbott in his *Principles of Bacteriology*, published only last November, summarizes infection "as a contest between bacteria and living tissues conducted on the part of the former by means of the poisonous products of their growth, and resisted by the latter

through the agency of proteid bodies normally present in and generated by the integral cells." The result in every case, of course, depending on the strength or weakness of the contending forces.

This brings me to the very centre of my subject—prophylaxis in the individual. How can it be accomplished? And in speaking of this question from the side of the economy, I do not wish to be understood as reflecting in any degree upon the utility of that score of germicides upon which the profession of to-day rely so much. The germ theory is the key to pathology in general, though the Yale-lock combinations of some diseases have not as yet been discovered.

Disease, then, may be divided grossly into two classes: The inevitable and the conditional. To the first belong the contagious diseases of children, for which idiosyncrasy is, perhaps, the only immunity. To the second, the zymotic diseases of the adult.

Of the first I will not speak. It seems a part of great Nature's programme that every child should have them, and if by reason of isolation one escapes, increase of years brings with it no absolute promise of immunity. Indeed, Dame Nature, if thwarted in her plans, seems to take a malicious delight in exacting compound interest from every adult who "cut" her diseases in youth.

Immunity to children's diseases is the exception, not the rule. The strong and the weak alike have them. The measles of to-day are the same that our grandfathers had, and they knew just as well as we know how to prevent them.

Not so with our second class of diseases, of which cholera, typhoid fever and tuberculosis are the type. Our fathers knew nothing of their ætiology, and hence were powerless to escape. Contagion spread from one individual to another, while they bowed their heads in silent submission as being chastened by the Lord.

And yet, with consumptive patients sleeping in the same beds with the healthy, and with privies, sink drains and water supplies all in direct communication, some escaped. How did they do it? Let the subject of this paper reply.

Now I contend that the *theories* of immunity, and so far it must be conceded that they are theories, are of slight importance compared with that most vital issue, are we immune?

Of what earthly consequence is it in what way the germs of disease are disposed of, whether by stored-up antidotes, starvation, phagocytosis or the protecting proteids of the serum, compared with the question, are they truly destroyed?

Immunity, then, is the meat of the whole business, and until scientists can agree upon what it depends, it behooves us lesser lights to waste no time in speculation, but strive by every safe, tried way to obtain it.

The way to insure credit is to be rich. The way to escape disease is to be well. People have been known to drink the cholera germ with impunity, to be inoculated with leprosy without harm, to pass through the plague and pestilence unscathed. "To him that hath it shall be given and from him that hath not shall be taken away even that he hath."

With many diseases the question of infection is simply one of resistance. Be we never so careful, there is no possibility of escaping exposure. The food we eat, the water we drink, the air we breathe are freighted with germs, and, if our tissue boards of health are not efficient, infection is sure to follow. Especially is this true of that scourge of modern civilization, tuberculosis. And yet there is no disease, so uniformly fatal, in which a robust constitution counts for so much.

Dr. Sims Woodhead says: "A perfectly healthy individual placed under favorable conditions as regards food, fresh air and exercise is never attacked successfully by tubercle bacilli."

The reason why so many shake off and even escape tuberculosis is that the tubercle bacilli, as compared with certain other forms of pathogenic bacteria, are slow of growth.

They enter the system with a flag of truce, and if the vital forces can only be aroused may be driven out.

Cholera takes the castle by storm. Tuberculosis by siege. It starves the tissues by cutting off supplies, or, what is more correct, attacks those tissues from which the supplies have been cut off. With one-seventh of our population dying year by year from consumption, it is useless to think by any means of escaping exposure. It is only left to put our bodies in the best possible condition and man ourselves bravely for the attack.

Let us then consider for a few moments some of the homely practical ways of preventing this particular disease, and note, if we can, how every man may become successfully his own germicide.

And to this end my first suggestion is, *live in the sunshine.* The sunlight is a deodorizer, antiseptic and germicide all in one. It will kill cultures of many virulent bacteria in a few hours. It will prevent molds and parasitic growths. It will purify a damp, unsanitary dwelling and make it healthful. In round figures the sun

shines twelve hours a day. The Creator evidently intended that period for work, but man, with short-sighted devices, has upset the "decrees," and in many places if the sun did not rise until 10 A.M. nobody would find it out. With our boundless acres and ready means for transportation it is not only needless, but cruel, to crowd human habitations together. Every house should have a yard around it. The summer sun should shine in every window, and near, but not too near, be found the cooling shade. Let us walk in the light and conform our hours of activity and rest more closely to Nature's program, and we have taken the first steps in sanitary tactics.

And in the second place I remark, *have plenty of pure air.* Our houses are fenced in with double windows, our rooms are piped for hot water or steam. Not a particle of fresh air can enter through either. If the doors are not left open, the air is warmed up and breathed over and over again, day after day for weeks together.

We complain of cheap boarding-houses, but it is infinitely better to be supplied with warmed-up food that has never been actually consumed than forced to breathe the warmed-up air that has.

We take food about three times a day. We quench our thirst perhaps twice that number of times, but we feed on air thirty thousand times in the same period, and if one must really decide between bad victuals and bad air he will show the part of wisdom to select the former.

Nor should he be less mindful of his lung food at night. The black hole of Calcutta was hardly worse than some sleeping apartments.

With proper ventilation the hours of sleep are hours of rejuvenation, but in many cases we have semi-asphyxiation instead. How, think you, can the blood-current shake off disease when drugged to the point of saturation with tissue sewer gas? When will the responsibility of "taking cold" be shifted from a harmless draught to a stifled bed chamber?

But proper respiration implies not only pure air, but the ability to inhale it. Did you ever think how strictly a matter of mechanical action respiration is? We do not *draw* air into our lungs, and we never did. The blacksmith at his forge does not draw air into the bellows. He simply expands the bellows and the air rushes in of itself. The act of respiration, so far as the lungs are concerned, is exactly the same, and in order to execute it properly the guy ropes or muscles of respiration must be in good condition.

To secure that, in the first place they must have room to work, and in the second place they must be made to do it.

To bind the chest down with tight clothing not only prevents expansion of its walls, but shuts off the blood-supply from the thoracic muscles and starves them at their post. No muscle without exercise can be properly developed. No muscle undeveloped can properly perform its function.

Where does tuberculosis almost invariably begin? In the apex of the left lung. Why in the apex? Because above the clavicles the chest wall has little power of expansion. Why in the left lung? Because most people have a weaker muscular development on the left side and the power of expansion upon that side is correspondingly diminished. Why are the muscles on the left side weaker than on the right? Because they are used less, most people being right handed.

A friend of mine, an operating dentist, has by much standing upon the right leg at his work increased its circumference two inches at the thigh and one inch at the calf, over the corresponding dimensions of the left leg.

Respiration, then, depends to a large degree upon the development of the thoracic muscles, development upon use, and use upon the intelligence and the will. The will, then, in the absence of financial necessity that compels physical exercise, is a prime factor in the sanitary problem.

With many it might be said in respect to physical exercise, as Uncle Tom rejoined to St. Clair, "Oh, Massa is good to everybody but himself." The bird is taken out of his cage for a bath. The horse is taken out of his stall for a drive, and even the pet poodle perambulates persistently at the end of his string, but the master, and especially the mistress, if rich, hardly lift their feet from the ground. A carriage is hailed if they wish to cross the street. A servant waits their every beck and call. No wonder they become imbecile and helpless. No wonder they become corpulent and diseased like shut-up poultry fattened for the market.

But I must not digress. The question next arises what forms of exercise are the best to produce muscular development and increase the respiratory power. To my mind the simple chest weight which anybody can fasten up in his bed chamber, will, without violence or overaction, call into play more of the respiratory muscles than any form of exercise devised. I have upon my back piazza an apparatus of this kind, and with it, by the arms alone, I can perform

44 distinct exercises bringing into play a different group of muscles each time. I know I am not a good advertisement for the instrument, but really it is my own fault. For months together its handles hang idle, but every time by me employed a sense of vigor creeps through the shrinking muscles of my frame. Dumb-bells and Indian clubs are good, but not so beneficial as the above, nor is the latter so ready of use. Rowing and boating are both one-sided exercises and neither calls into play to best advantage the intercostal or anterior muscles of the chest. Walking, of course, for all is beneficial, but running, if we only had the opportunity, is far better. Talmage, I have read, has a race course in his back yard, where he runs off his pent-up agonies, and Gladstone seeks relief from nerve strain by swinging the axe. Tennis, ball games, fencing and boxing are not available to the single individual, and some as at present conducted, are far too brutal for health.

All things considered, with a proper saddle and properly employed, the bicycle is the acme of hygienic delight. Its use combines the cardinal principles of health, pure air, physical activity and mental exhilaration. No exercise can be wholly beneficial that is irksome. The mind should outrun the body in whatever it undertakes. A bright idea, a hearty laugh, a laudable purpose are in their therapeutic effect both stimulant and tonic.

"Functions precede organs and lead to their development," is the lesson taught by evolution. Mind acts mightily upon function, and pleasant occupation must surely be quite as potential to prevent as cunning-wrought *placebos* to cure disease. As a brisk shower washes our streets and carries untold impurities away, so physical exercise, under proper conditions, flushes the capillaries and drives out effete matter from the system. Exercise, then, is a kind of an internal bath and may be set down as a *sine qua non* in sanitary practice. And this reminds me that the skin has a duty to perform as well as the respiratory apparatus. Next to the heart and lungs there is no organ upon whose function we are so vitally dependent. Cover the skin with an impenetrable varnish and death results in a few hours.

I have not time to dwell upon its minute anatomy, with its millions of pores and miles of sudorific ducts, and can only refer in the most cursory way to the importance of keeping these channels of elimination open by the judicious use of the bath. Over-bathing, like over-exercise, defeats its own objects and constitutes in itself a source of disease.

But I must not go on. The remainder of my subjects I can only read by title. Dress, drink and social dissipation, work, worry and sexual abuse, all depress the system and render it an easy prey to hostile germs.

The true moralist is never the ascetic. We cannot insure health by fleeing from disease. Use all the antiseptics the wit of man can devise and yet some germs will escape.

" Wherefore seeing we are compassed about with so great a cloud of bacteria, let us lay aside every indulgence and the appetite that doth so easily upset us, and let us run—with patients—the race set before us," knowing that a strong constitution is ever the best preventive of disease, and a robust physique the safest germicide.

Discussion.

F. Parke Lewis, M.D., Buffalo, N. Y.: Dr. Rand has so completely covered the subject that I shall have very little to say. It seems to me the key-note has been struck in several of the papers in regard to the prevention of disease. It would seem a strange statement, and yet I think it is one that can be demonstrated to be very largely, if not wholly, true, that aside from these symptomatic diseases of childhood, and those resulting from trauma and definite sepsis, there is no such thing as an acute disease. When you see an apparently well, strong man stricken down with pneumonia and dying in three days, or another from a heart clot who dies with equal suddenness, it seems impossible that we should say that cannot be a definite acute process, and yet there can be no development of the pneumococcus unless there has been a suitable soil prepared for it, and the preparation of that soil in many instances has been, not of days, or weeks or months, but of years, a lowering of the vital processes which makes almost any of the bacilli develop in such a culture.

Dr. Rand has spoken so fully that I shall have very little to add, but the necessity of the maintenance of the proper bodily functions of the skin, of the lungs, of the kidneys and of the bowels in order that we may prevent the accumulation in the system of those toxins that gradually but surely makes possible the development of disease, it seems to me can hardly receive too much attention. We, as physicians, have grown too much in the habit of taking the acute manifestations of chronic conditions when they come to us and doing what we can to relieve them, and then think that our duty is wholly done. I think that the duty of a physician to his patient is quite as much in recognizing that which the patient cannot recognize, that he or she is standing on dangerous ground, that he or she is living under conditions which must inevitably result disastrously, and it is quite as much our duty to make the patient acquainted with the fact that right liv-

ing is a duty, and that right living can prevent disease, as it is to meet the diseases when they come and do all we can to cure them.

J. H. MOORE, M.D., Brookline, Mass.: I am sure we all appreciate the very satisfactory manner in which Dr. Rand has presented his paper to us, and I am sure that we all agree with him that the best prophylaxis against disease, especially those diseases of germ origin, is to keep ourselves well, and in as good condition as possible. If men and women do not like to obey the laws of nature, or to avoid bad habits as a matter of morality, they ought to do it as a matter of self-preservation, or their chickens will come home to roost. I want to emphasize one feature: In the face of the fact that one-seventh of our population die of consumption, I think, as physicians, we should take care of not only our patients, but of the people who surround our consumptive patients as well, when we consider that it is such an infectious disease as it is. We should use all the methods of antisepsis during the treatment of the case, and particularly after death; when a consumptive patient has been confined any length of time in a room I think we should be as careful to disinfect that room as if the patient had died of scarlet fever or diphtheria or anything of that kind; perhaps there is not the same necessity, but that should be the safeguard against the spread of the disease.

There is just one other thing, the location of wells and privies. I think it is a deplorable fact so many of our patients come home from country resorts and, after being home a little while, are taken down with typhoid fever. We had a very sad case in our town last year of a young woman developing a very severe and fatal case of typhoid, which was afterwards found to have come from the drinking water of a well located near a privy. When our patients come to us and want advice regarding their sojourn for the summer, I think we should impress it upon their minds to look into the hygienic conditions of the place where they think of going, and particularly to see that the sewerage and well water have not been commingled.

C. A. WEIRICK, M.D., Chicago, Ill.: I wish to speak on the subject of pure air, referred to by the essayist. Recently, in conversation with a teacher whose work is in Chicago, she related a case in which a little child requested that her seat might be changed, as her seatmate was so filthy that she was made ill by the close proximity of her fellow-student. When I was a boy, there were always children in the school whose bodies were so filthy that the air became impregnated with offensive odors. In my observation since coming to manhood and since being a physician, I think there are still children in the public schools whose bodies are filthy, whose bodies are not bathed, perhaps, for months; and one of those bodies, with the exhalations that arise from it, will impregnate the atmosphere of a school-room to such an extent that the germs of disease are brought in contact with all the children in the room. While some

of the children may have such constitutional vigor as to resist the pernicious effect for a time, it will manifest itself later in life. Other children will feel the ill effects of it at once. Now, as a practical solution of this problem, it seems to me that the medical societies, especially those which exercise such influence as a national society, should take some action by which those children will be compelled to bathe. I think one of those filthy children in the school-room does more harm than a half-dozen garbage boxes uncleaned, because the emanations from their bodies are held within the four walls of a room, and there is no system of ventilation sufficient to remove those filth germs that come from the body. Now, I think that is one of the sources of impairing the vigor and vitality of many children.

J. A. WHITMAN, M.D., Beaufort, S. C.: The gentleman on my left speaks of taking precautions after death. It is all very well to take all those precautions to prevent the spread of the disease.

The gentleman who read the paper gave many valuable hints on exercise. If any of you have ever seen it practiced, you will realize that chopping wood is a most excellent exercise. If I had a young girl that had become debilitated, I would have her father get a log of wood and a nice little axe for her, and set her to work. She can see the chips fly, she can hear the axe cut, and every organ of the body is exercised. If there is any muscle of the body that doesn't move in chopping wood, I would like to have it located; for instance, the chest walls. Now, rowing is very well, and these other exercises that have been mentioned, but they are not as useful as chopping wood.

Then there is another thing that is not taken into consideration by everybody, and that is learning how to breathe. I commenced when I was a boy sixteen years old, and I have been very careful to keep my chest open and pretty well expanded; that is one thing that I think we fail a great deal in, in not advising our patients to exercise their lungs; to get up in the morning and go where the air is clean, and take three good expansions—good long ones, too. Of course, we all know how to do it, and it is very beneficial. If you will just note the wood-chopping exercise, you will be perfectly amazed at the benefits received.

DR. RAND: Just one word on the mechanical act of breathing. To develop the chest muscles, there is one thing better than to fill the lungs full of air, and that is to expand the chest with the lungs empty. To accomplish this at the end of a full expiration, throw back the shoulders, prevent the air from entering the chest, and go through the entire muscular part of respiration. You will thus increase directly the power of the thoracic muscles, and so add immensely to the respiratory power of the chest when breathing naturally.

There is, perhaps, no better exercise than this to develop respiratory power in a person of a consumptive habit.

Prevention of Sexual Neurasthenia.

By H. E. Beebe, M.D., Sidney, Ohio.

Philip Coombs Knapp, in the May *Century*, questions the popular belief that there is in this age an increase of nervous diseases, and doubts whether the conditions for causing such troubles are greater than in the past. He says: "The cause of the supposed increase is increased demand made by the conditions of modern life upon the brain. Everything is done in a hurry. We talk across a continent, telegraph across an ocean, take a trip to Chicago for an hour's talk. Business methods are such that fortunes may be made or lost in an hour, the conditions of a democracy are such as to fill the people with unrest, each one striving to better his condition. We take even our pleasures sadly and make a task of our play. What wonder if the pressure is almost more than our nerves can bear?" While all this is true, he argues logically, his points are well taken. That there are successful efforts in the prevention of disease that in striking a balance between all the conditions, to determine what is most detrimental, it is seen that we Americans do live in too much of a hurry and are under too great a strain. Yet, after all, some conditions are better and others worse than they were five, or two, or one century ago; and, all in all, there is probably less nervous trouble than formerly, by reason largely of preventive measures.

It is often much easier to avoid evils than to remedy them. The same is true of disease, and particularly so of neurasthenic diseases. While this typical functional malady is well known to be of neurotic origin, in many respects the cause is not well comprehended, in fact not sufficiently so to always be prevented. The numerous causes, as well as their obscurity, may prevent the removal, be the desire ever so urgent on the part of the physician or the patient. Where visibly organic, we may have the key to eradicate it, but so often all we observe is functional, and then we are lost as to the actual origin.

Nerve prostration is the broad term for neurasthenia, and sexual neurasthenia is an obscure division, denoting nervous sexual exhaustion, impoverishment of sexual nerve force. What is the prevention as well as the remedy for this waste? Educate the masses in sexual hygiene first, before organic defects arise, for when they

do develop, then often heroic measures are necessary before a cure can be established.

But little that is reliable has been written on this line of thought, except Drs. Beard, in America, and Acton, of England. Literature of good repute is very, *very* scarce. Of late a few articles on mental therapeutics as related to this subject have appeared, and certainly this is the correct line of study in the prevention of not only sexual neurasthenia, but of all other forms of the disease. Modesty in the profession—may I say mock modesty?—has prevented the development of this line of thought. The people need correct teaching on this question, and *we* must do the teaching. But *how* to do it properly is a considerate question. When discussed it should be done with candor and frankness, not in a spirit of shame and prudery.

Quacks and nostrum-vendors have written much poisonous literature on this question, thereby magnifying the dangers of the malady, and taking advantage of the poor mentally weak invalid's sufferings due to sexual neurasthenia. The charlatan has considered more than the reputable physician the important relationship of mind and body to the nervous system, both in health and disease, and to sexual troubles in particular. This is his principal stock in trade.

Too many of these patients' troubles are diagnosed as general debility, nervous prostration, hypochondria, hysteria, insanity, or with the various organic diseases of the cerebro-spinal nervous system. It may be the brain or the cord, and the treatment is accordingly.

Spinal irritation, so-called, is frequently sexual irritation, and the general symptoms present are gastric irritation, cephalalgia, functional cardiac trouble, and even pulmonary difficulties. All these symptoms may be due to passive congestion of the prostate in the male, or in the female to uterine or ovarian troubles in some of their forms. There is commonly pelvic congestion in the vicinity of the sexual centres.

Evil habits, sexual frauds and excesses are far from being the only ætiological factors in sexual neurasthenia. Persons of an emotional and over-sensitive nervous organization are more liable to be attacked by this trouble. With those possessed with this temperament, psychic influences are among the leading causes as well as the greatest agents in eradicating the difficulty. Well-marked organic disease is not so common to the nervous as to the non-nervous. It is this first class that is functionally diseased.

While it is not always easy to classify diseases into organic and functional, or to tell which is primary and which is secondary, it should be done if possible, for the primary exciting cause ought to first be removed before the best work can be accomplished. If it be psychic, which is most likely, the mental and moral influences must largely overcome the disease, whether it be by aid of Christian science, faith cure, pow-pow or what not, it is all one and the same, the power of the mental faculties over the physical, the greatest agent of all in the prevention as well as the cure of sexual neurasthenia. Few will dispute that in a small per cent. of cases, where there is visible organic trouble, probably due to long-standing functional disease, this must be eradicated before mental therapeutics can effect a cure, but even then this agent is a hastener in bringing about desired results. It should be used before operative measures are adopted, as a preparatory measure. Though it is not always possible to tell where healthy function of organs end and disease begins, it is fast becoming an axiomatic fact that the prevention of sexual neurasthenia depends largely upon mental influences, as does its cure upon mental therapeutics and sexual hygiene.

In most neurotic difficulties look well to the sexual functions, remember that hypochondria and hysteria are unscientific terms. When we are unable to determine, or are not exactly satisfied, as to the disease or pathology of the nervous man's trouble we call it hypochondria; with the poor, suffering woman, we say she is hysterical. Either term is about equivalent to saying we don't know to a certainty just what is the matter. We merely know these cases have a lowered vitality, a state of mental depression. There is a nervous bankruptcy, and nerve force is continually escaping. Instead of nervousness it is nervelessness. But then some one says, "What are you going to do about this so commonly prevalent disorder?" To lay down special rules for prevention, or even treatment, of sexual neurasthenia is impossible, as it is with other diseases, but it is possible to study more carefully mental therapeutics and educate the masses along this line. Discuss the question in the profession. Investigate more closely our cases of sexual nervousness. Individualize them, and by study and proper tact bring mental suggestion, in the right direction, more often to bear on the mind of the patient. This agent *is* a great aid, possessed by intelligent physicians, both as a prophylactic and curative measure, in the large majority of sexual neurasthenias. It is high time that the medical profession grasp this truth and make a more general use of it in every-day work.

The Climate of Salt River Valley.

By W. L. Woodruff, M.D., Phœnix, Ariz.

That climate stands at the head of the list of favorable conditions requisite for the successful prevention and arrest of the progress of a large number of diseases I think you will all readily admit.

I think it equally true that, believing the above, the profession are anxious to learn of the best place for the greatest number. That place I claim, and will try to prove, is the Salt River Valley in the southwestern quarter of Arizona, with Phœnix as its largest centre of population.

The essential features of climate necessary to meet the requirements of an ideal health resort for persons suffering with chronic diseases generally, and especially with diseases of lung and throat, kidney, rheumatism and conditions of malnutrition, are: first, a warmth and geniality which enables the weakened subject to spend the greatest possible amount of time in the pure air with the minimum amount of clothing; second, a degree of dryness of the atmosphere which will insure rapid and easy elimination from the skin, thus relieving the weakened and diseased mucous surfaces from the full task of elimination which ordinarily they are expected to perform, but under diseased conditions cannot accomplish, in consequence of which inability there is imperfect elimination, and gradual poisoning of the system from the circulation of blood not fully deprived of its effete material; third, an equability of climate, which does not suddenly go from great extremes of heat to cold, whose night and day temperatures are not too far separated, and where there is so little dampness in the air that the changes in temperature are but little felt; fourth, the minimum of wind movement, and that with the least possible contamination from decaying vegetable substances, decomposed animal matter or poisonous gases of whatever origin; fifth, such a combination of climate, general healthfulness and commercial, industrial and social advantages, that the health-seeker may live in comfort and with profit, if he be inclined

to employ himself in remunerative occupations within the limit of his strength.

Imagine, if you can, a valley varying from 25 to 75 miles in width and 200 miles in length, with continuous mountain chains on either side, running from northeast to southwest, this valley terminating in a gulf whose surface contains 53,000 square miles, whose opening into the Equatorial Pacific Ocean is 250 miles wide, and having the same continuous mountain chains. You can then readily understand how the equatorial trade winds sweeping up the West coast of Mexico enter with the tropical ocean currents the confines surrounding the Gulf of California, and that these winds, after sweeping over these 53,000 square miles of tropical waters, form the prevailing winter winds of this vast valley, and in a great measure produce the mild, salubrious winters for which the upper part of this valley, known as the Salt River Valley, is fast becoming famous.

To this add continuous high mountain ranges surrounding us on the west, north and east, and you have a land, or rather rock-locked valley from which all the cold winter winds are excluded; and if perchance while the blizzard is sweeping over the rest of the country we should feel the edge of it, it can only reach us by the settling down of the upper air currents, and not by a direct blow.

Here in this favored spot—the sun-kissed Valley of the Salt—you will find a haven of rest and safety for the invalid that fills all the requirements mentioned, and the like of which does not exist in any other portion of the known world.

Winters in the Salt River Valley are mild, salubrious, with rarely a severe frost. Out-of-door life is possible, customary and enjoyable, and excepting the rainy season, which lasts but a few days, one can sleep out of doors with impunity. The invalid can spend every hour of the twenty-four out of doors, or in a tent, not only without risk but with great benefit. The pure, warm, dry air is invigorating and life-giving and is indeed Nature's stimulant and tonic.

The days are warm, delightful, sunshiny. A cloudy day is a curiosity, there being rarely more than two or three during the month. There is, I think, no other place in the civilized world where the cloudy days are so few and the sunshine so continuous and perpetual. The following tables will demonstrate this better than anything that I can say.

As to the dryness of the atmosphere, there is but one opinion, I believe, as to its being an essential feature of an ideal climate and

health resort. In this particular, I can assure you, we excel. This valley is the dryest place available for the health seeker, if not the

U. S. DEPARTMENT OF AGRICULTURE—WEATHER BUREAU.

Comparative Data at Phœnix, Ariz., August, 1895, to June, 1896.

Data.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.
Mean actual temperature.....	89	82	72	57	49	54	56	62	64	74
Mean sensible temperature...	70	64	59	49	41	44	44	48	48	54
Lowest temperature.....	65	47	48	34	23	30	28	34	38	45
Highest temperature.....	110	107	93	83	78	79	82	92	89	110
Mean rel. humidity, 5 A.M...	61	54	67	81	76	69	65	56	50	41
Mean rel. humidity, 5 P.M...	27	29	39	54	40	40	25	21	15	14
Percentage of sunshine.....	85	89	88	81	88	77	87	75	91	89
Monthly rainfall (inches).....	0 27	0.10	0.80	0.89	0.09	0.46	0.05	0.39	0 05	Tr.

Trace rainfall = too small to measure.
100 = continuous sunshine.
Station established August, 1895.

ARTHUR S. WHITE, *Observer in Charge.*

Comparative Table of Dry Bulb Mean Temperatures.

	1895.			1896.				Elevation above Sea Level.
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
Phœnix, A. T.....	72.0	57.0	49.0	54.0	56.0	62.0	64.0	1160 feet.
San Diego, Cal....	63.8	58.1	54.3	54.5	57.5	57.6	56.0	93 "
San Antonio, Tex..	65.5	55.4	51.7	52.0	54.2	59.0	68.1	679 "
Santa Fe, N. M...	46.9	32.6	23.8	31.7	31.6	39.8	47.7	6998 "
Denver, Col.....	46.4	35.4	31.7	35.2	36.2	35.5	48.6	5287 "
Los Angeles, Cal..	66.0	60.0	56.0	58.0	60.0	57.0	56.0	330 "

Comparative Table of Wet Bulb Mean Temperatures.

	1895.			1896.			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Phœnix, A. T.....	59.0	49.0	41.0	44.0	44.0	48.0	48.0
San Diego, Cal.....	59.2	51.4	46.6	49.7	48.9	52.2	50.2
San Antonio, Tex.....	55.2	30.4	44.8	46.3	46.4	53.1	62.5
Santa Fe, N. M.....	39.2	24.3	14.8	26.8	25.4	30.6	33.8
Denver, Col.....	36.6	28.2	25.2	28.0	29.2	29.6	38.5
Los Angeles, Cal.....	52.0	52.0	48.0	52.0	51.0	53.0	50.0

Comparative Table of Mean Maximum Temperatures.

	1895.			1896.			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Phœnix, A. T.	93.0	83.0	78.0	79.0	82.0	92.0	89.0
San Diego, Cal.	70.6	68.7	65.1	64.3	67.7	66.7	63.9
San Antonio, Tex.	80.0	67.5	65.0	63.6	67.6	72.1	79.0
Santa Fe, N. M.	59.8	44.0	37.7	42.8	42.5	51.4	60.4
Denver, Col.	80.0	75.0	69.0	67.0	68.0	76.0	80.0
Los Angeles, Cal.	76.0	72.6	69.0	68.0	73.0	70.0	67.0

Comparative Table of Mean Minimum Temperatures.

	1895.			1896.			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Phœnix, A. T.	48.0	34.0	29.0	30.0	30.0	28.0	38.0
San Diego, Cal.	58.2	50.1	44.8	46.7	47.7	49.6	49.1
San Antonio, Tex.	57.5	48.4	43.7	44.5	43.8	49.7	61.6
Santa Fe, N. M.	39.3	26.1	17.1	25.0	23.6	29.6	35.3
Denver, Col.	21.0	02.0	05.0	0.0	09.0	0.0	09.0
Los Angeles, Cal.	55.0	47.6	44.0	47.0	45.0	47.0	46.0

dryest place in the world. The following table of relative humidity for the seven months just past conclusively demonstrates this fact:

Comparative Table of Mean Relative Humidity.

The rainfall for Phœnix during these seven months is 2.70 inches.

	1895.			1896.			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Phœnix, A. T.	53.0	68.0	58.0	54.0	45.0	38.0	32.0
San Diego, Cal	78.2	65.0	56.6	72.6	58.0	71.0	67.0
San Antonio, Tex.	57.2	72.5	56.4	66.5	57.8	69.8	75.1
Santa Fe, N. M.	51.8	60.0	51.8	51.0	43.1	34.9	19.4
Denver, Col.	53.4	44.9	41.4	44.5	46.2	59.7	46.8
Los Angeles, Cal.	82.0	60.0	57.0	68.0	52.0	70.0	67.0

I think a study of this table with the one preceding will disclose conditions extremely favorable to the elimination of effete material from the skin, thus relieving the weakened and overburdened mucous membrane and internal organs, and thereby favoring recuperative processes. This is especially so during the summer months, to which we will refer later.

Our one weak point is the difference between night and day temperatures. This difference is quite marked, but is much more so measured by the dry-bulb thermometer than by the wet-bulb. The extreme dryness of the atmosphere makes the lower temperature less perceptible than in more moist climates, though there the extremes be considerably less. Owing to the dryness of the air the mid-day temperatures do not seem nearly so high as they actually are, neither do the lower temperatures of night produce the chill one would expect from looking at the reading of the dry-bulb thermometer.

The actual discomfort from this wide range of temperature is but slight and its danger largely imaginary. Neither danger nor discomfort from this cause is equal to that in a moist climate with a range of temperature not more than one-third as great.

This difference is much less, and indeed exists, but in a very small degree, in the higher lands of the foot-hills and upper sides of the valley. The altitude at Phœnix is 1100 feet, and in the foothills on the sides of the valley it will run from 300 to 500 feet higher.

The wind movement in the Salt River Valley is so slight as scarcely to be a factor. Our average annual wind movement is but $2\frac{84}{105}$ miles per hour. A wind of 25 miles per hour is unknown. The gentlest of zephyrs usually prevail. As on all sides there is but barren mountain and desert, as nothing grows except by irrigation, and, as the water is under the perfect control of man, there is no danger from decomposed vegetable matter. The atmosphere is so dry and pure that animal matter dries up instead of decaying. There being no marshes or stagnant pools, there is absolutely nothing but pure, uncontaminated air to breathe.

Now the very best proof that what I have claimed in the above is true is the low death-rate for the valley, shown by the following table for the past four years.

Now a word as to the summers in this valley. Accurate data I cannot give you as to the temperature, humidity, etc. The weather bureau station was only established at Phœnix last fall. This I can say from personal observations extending over four summers, and as corroborated by the above table of vital statistics, that there is not a more healthy place on earth than this same Salt River Valley in the summer time. While about one-third of all the deaths in the United States during the summer months are from bowel troubles among infants, here such deaths average less than two each month in a population of 15,000. Our death-rate last summer for

the whole five hot months was but one-fourth of 1 per cent., while the average for the whole country was about 2.2 per cent. Is there any other place that can make such a showing?

Vital Statistics of that Part of the Salt River Valley North of the Salt River, West of the Verde and East of the Agua Fria, Covering a Territory of 250 *Square Miles, and Including the City of Phœnix. The Population, on a Conservative Basis, is put at* 14,000; *for* 1895 *at* 15,000.

	1892.	1893.	1894.	1895.	Total.
Total number of deaths	133	185	168	141	627
Transients	29	38	41	47	155
Accidental deaths	10	15	7	13	45
Among residents	94	132	120	81	427
Percentages, fractions of 1 per cent	¼	⅛	⅛	⅛	¼
Deaths Classified by Ages.					
Under 5 years	28	59	33	29	149
Over 70 years	12	8	13	7	40
Over 50 years	31	32	36	19	118
Deaths during the Summer Months of May, June, July, August and September.					
Total	41	75	54	58	228
Transients and accidental	8	21	13	23	65
Residents, from natural causes	33	54	41	35	163
Percentages, fraction of 1 per cent	⅛	⅛	⅛	⅛	⅛
Under 5 years of age	6	28	13	14	61
Under 5 years of age, of bowel trouble	6	11	9	5	31
Causes of Death.					
Stomach and bowel diseases	10	30	21	14	75
Nervous and brain diseases	17	8	4	8	37
Typhoid fever	2	4	4	2	12
Scarlet fever	1	3	0	0	4
Measles	0	4	0	0	4
Diphtheria	0	5	2	0	7
Heart disease	8	1	7	3	19
Diseases of respiratory organs	50	73	61	56	240
Old age	4	4	6	4	18
All other causes	40	56	58	54	208

NOTE.—Deaths designated as transients are only those of persons who have been here but a brief period prior to their diseases, who came here as a *dernier ressort* in the advanced stages of diseases of the respiratory organs. This accounts for the large number of deaths under that head.

A large proportion of those claimed as residents ought to have been included in the transient class.

To understand our unparalleled healthfulness during the period when the rest of the world is suffering from heat prostration and allied disease, we must for a few moments turn our attention to the study of the difference in the reading of the wet and dry bulb thermometer.

The better to do this I will quote freely from a recent article by Captain William A. Glassford, Signal Corps, U. S. A., Denver, Colorado.

"Every person who has resided in the humid and in the sunshine region knows that there is something wrong with the indications of the thermometer; that there is a marked failure to express, in terms of degrees of temperature, the way in which the recorded temperature affects his comfort in the two regions. If the traveler from the east happens to be in Albuquerque, Denver, Salt Lake City, Boise City or Sacramento, when the thermometer is at or near the 100° point, he must be shown the instrument to be satisfied it is so high, because the discomfort that he is familiar with as a concomitant of such recorded heat in his section is entirely absent. Seeking the cause of this fact, he is told that it is accounted for by the absence of humidity. To most people the real reason is still more or less obscure. That 100 degrees makes the man hotter in one place than in the other is accepted as well known; but the amount of this difference in degrees is not at all generally apprehended.

On a nearly north and south line near Wilmington, North Carolina, and Pittsburg, Pennsylvania, the compass bearing is due north; while throughout the arid region it swings from 10° to 20° out of true, due to magnetic variation. What would be thought of the practical experience and science of a surveyor from the eastern states who, on coming to the arid region, would expect to use a compass reading without knowing or using this magnetic variation? None the less unscientific, if I may not say absurd, when considering the sensible climatic influence on the human body, is the placing side by side of the recorded thermometric observations of an arid with a humid region without applying a correction of variation factor for dryness and humidity, as is necessary for the magnetic variation when using the compass. But we live in a scientific age, and the means exist to determine and familiarize the people of this country with the exact variation factor to be applied to our records of temperature to reduce the expression of heat or cold felt by human beings everywhere to a common standard of sensibility.

A clothed living body, having a great evaporating surface through the pores of the skin, is affected by what is known as the evapora-

tion or sensible temperature; which is found by placing the thermometer bulb in nearly the same environment as the human body in summer—that is, by clothing or surrounding it with cotton, dipping into a humid source, so that the capillary tubes of the cotton fibres may carry around the bulb moisture, as perspiration is carried to the surface of the body through the skin. The resulting evaporation about the moistened surfaces of the human body and the thermometer is similar, and the greater the dryness of the air, the greater and the more rapid is the evaporation and the resulting coolness. A gentle wind carries off the layers of air in contact with the body as they become more or less saturated with moisture, and they are replaced by drier air, thus promoting evaporation whereby the temperature of the surface is lowered. Everyone has felt the sensation caused by wind blowing on damp garments or on wet skin, and the cold thus experienced. The normal skin gives off a quantity of water in the form of perspiration, and in proportion to the dryness of the air this moisture disappears by evaporation. The passage of this moisture into vapor causes the abstraction of heat from the body and the bodily temperature is lowered, as may be readily observed some little time after severe exertion. Light cotton or linen fabrics allow the perspiration to pass through freely, so that the evaporation and cooling process is unchecked.

"The dryness of the arid region is most favorable to these cooling influences, while in the east the close, humid air, being already almost constantly saturated with moisture, is unable to absorb the moisture on the skin; and so not only is there an absence of the cooling effects of evaporation, but the perspiration remaining on the body helps to clog the pores, and thus produces the well-known and thoroughly uncomfortable suffocating effect.

"When the air is saturated with moisture—a condition often present in the East during the heated term—there is absolutely no evaporation; consequently, in such cases, the deduction of our temperature from this cause is zero, and the sensible temperature thermometer and the ordinary thermometer read alike. But this is seldom or never the case in the arid region on account of its dryness.

"The variation between the sensible temperature and the reading of the ordinary thermometer is greatest in the hottest season of the year and during the hottest part of the day, and that is precisely the time when it is most needed.

"As there is a signal service record of the readings of these two kinds of thermometers for a number of years, taken at 7 A.M., 3 P.M.

and 11 P.M., I will take, as representing the extreme heat occurrence, the "means" of those readings for the month of July, for a period of years, for all places of observation in the United States, and compare them by drawing isotherms showing the reading of the sensible temperature thermometer and the ordinary thermometer, and contrast them.

"Yuma, Arizona, which is but a few miles from the Gulf of California, and is influenced by the moist winds therefrom, is generally reputed to be the hottest place in the United States. Fortunately, to controvert this, we have a signal service weather record for that point, as we have also of the cities on the Mexican gulf and on our South Atlantic shore line. From these records it appears that the mean sensible temperature, deduced from the three daily observations for the month of July, at Yuma, is but 75°. Turn to the East to find where like conditions prevail, and incredible as it may seem, we discover that we have not a single one of the shore-line cities between Wilmington, North Carolina, and Brownsville, Texas, at which the mean July sensible temperature does not exceed this 75° at Yuma. Not only is this true, but all the citrus district of Florida, the sugar-cane region of Louisiana and the tobacco lands of Texas are south of the 75° line, and so are sensibly warmer than Yuma, Arizona.

"Yuma, as before stated, is affected by the moist winds blowing from the Gulf of California: therefore, its sensible temperature is not as low as many of the valleys (which are susceptible of reclamation by irrigation) in the midst of the so-called deserts of California and Arizona.

"As this is one of the startling facts brought out by the investigation of the data upon which this paper is based, permit me to repeat it. The coast of South Carolina and Georgia, all of Florida, the seaboard of Alabama and Mississippi, nearly the whole of Louisiana, and the southeast part (one-third) of Texas, are not so well favored in July as Yuma, Arizona, which is the most humid place, hence the most uncomfortable perhaps in the arid region.

"North of the line of the Yuma or 75° July mean sensible temperature, of which the sections last noted are to the south, lies the belt of sensible temperature between 75° and 70°. The upper edge of this zone, or the line of 70° for July, may be located by commencing at Chesapeake Bay near Washington City, following the eastern foot-hills of the Alleghany range, turning north at Chattanooga, including west Tennessee and Kentucky, extreme southern Indiana

and Illinois, southeast Missouri, including the city of St. Louis, following closely the north and northwest boundaries of the Indian Territory and Texas, also southwest Arizona and southeast California.

"Having discussed the mean sensible temperature of the warmest month, a glance at what is shown for the warmest part of the day in the hottest month may serve to further accentuate the comparative comfortableness of the arid region. Yuma, Arizona, has a mean sensible July temperature, at 3 P.M., of 78°; Charleston, South Carolina; Titusville, Florida; Galveston and Brownsville, Texas, have the same; Key West is 1° hotter. Phœnix, Arizona, farther from the influence of the moist atmosphere of the Gulf of California, is 4° cooler than Yuma in the hottest part of the day.

"It may be said that the average of 11°, the observations including those at 7 in the morning and 11 at night, for the month of July, represents only general conditions and not special instances; but here, also, to controvert this assumption, I have authoritative signal service data. As it is desired to show only the side of the case least favorable to arid America, leaving the genial dry air and sunshine of winter in the arid regions uncontrasted with the cold waves, slush, and humid sombreness of the eastern winters, only midsummer extremes will be stated.

"As Yuma is a regular signal service station, where complete records have been kept for twenty years, let us see what are the extremes there. The greatest shade temperature recorded is 118 degrees, but, as this was registered by a self-recording thermometer, the evaporation temperature at the same time is not given. However, at another time, when 116 degrees was recorded, the wet-bulb thermometer was at 70 degrees. It is well known that this dry heat produces no injurious effects, sunstrokes being unknown.

"It follows, from these recorded facts, that in the hottest parts of the arid region the mid-summer weather is not only endurable, but even enjoyable and refreshing. These are the facts as they exist now, when the present conditions—the bare soil, etc.—are specially conducive to high temperature. But it may be readily conceived that there will take place salubrious modifications, as some of us have already realized, when these desert places are covered with the green carpet of alfalfa and the verdure of trees; when the wasting waters are stored and diverted by the irrigator to the surface of a soil, only waiting for water to produce bountifully, not only the fruits of the earth in due season, but almost to produce the seasons themselves at will."

That the difference between the reading of the wet- and dry-bulb thermometers in the dry, hot atmosphere of the Salt River Valley is much greater than is actually experienced by the human body I must admit, but it is equally true that the higher the reading of the dry-bulb goes the greater is the perspiration, and the more nearly do the conditions of the body conform to that of the wet-bulb, and more nearly is the actual heat conditions experienced by a person registered by this wet-bulb.

The actual heat experienced in this climate by the human body varies from 5 to 20 degrees lower than the reading of the dry-bulb thermometer, and is influenced by the percentage of humidity, by the degree of heat and the amount and kind of clothing worn.

If the human body could be kept in the same condition of moisture as is the wet-bulb, and in the same strong current of air, the reading of the wet-bulb would accurately register our sensation of heat.

If a person should remove all clothing, wrap himself in a wet sheet and stand out in the sunshine, with a stiff wind blowing, these conditions would approximate the conditions of the wet-bulb. As this is not the conventional or convenient mode of dress it is not practicable, and these conditions are never fully realized. They are more nearly attained by the laboring man in the fields, who is in a constant copious perspiration.

Judging from pretty careful observation I apprehend that, under average conditions, if you will divide the difference in the reading, between the wet- and dry-bulb, by two, and add this to the reading of the wet-bulb, you will arrive at the correct degree of heat experienced by the human body in the Salt River Valley.

Our summers are hot. The sunshine is continuous during the day. The nights are cool, comfortable, balmy, almost seductive. If a perfect night is ever experienced, it is here during the summer. The heat is stimulating, healthful and not the least depressing. Perspiration is copious, and evaporation instant. One feels well and soon gets to long for the summer time, when people live out of doors both night and day. That lassitude which one feels during the dog-days in moister climes is entirely absent.

This is the season when the invalid makes his greatest improvement, when he sleeps with only the sky for a covering, and contentedly swings in his hammock during the day, filling up at his pleasure on lucious fruit in great variety.

I can give you data for the month of May just passed, which I think will surprise you. As you all know, this month gave us

everywhere a taste of what hot weather is. The following table will give you a slight idea of what summers are like in the Salt River Valley, when Nature surpasses herself:

Table of Actual and Sensible Temperatures for the Month of May, 1896, *with the Percentage of Relative Humidity for Each Day except Sunday.*

Observations taken at 3 P.M. by U. S. Weather Bureau, voluntary.

	Actual Dry Bulb.	Sensible Wet Bulb.	Per cent. Relative Humidity.
May 1	82.0	55.0	11
2	85.5	57.7	13
3	.....	.....	.....
4	85.5	57.5	13
5	85.2	59.0	17
6	75.4	51.4	13
7	72.5	51.0	18
8	73.5	52.0	19
9	81.0	56.0	31
10	.....	.....	.....
11	83.0	54.0	9
12	83.5	56.0	9
13	85.6	56.0	11
14	87.2	54.5	7
15	85.0	55.5	10
16	83.0	54.0	9
17	.....	.....	.....
18	89.2	59.0	11
19	84.2	55.0	9
20	87.0	57.0	11
21	86.8	58.0	14
22	89.0	59.5	13
23	85.9	61.6	22
24	.....	.....	.....
25	104.0	67.0	12
26	100.5	68.0	10
27	108.8	69.0	11
28	108.5	69.0	10
29	98.0	66.0	16
30	87.3	59.4	15
31	.....	.....	.....

This is a rapidly growing community of industrious, intelligent, law-abiding people, where the stranger is welcome and is soon made to feel at home.

The conditions of climate and soil are such that anything that will grow in any other part of this country can be grown in the Salt River Valley, just as readily, and in the majority of instances to much better advantage than elsewhere. Lands are cheap and easily

attained, and any one who so desires can find profitable employment.

That you may the more readily concede to Phœnix and vicinity its proper place at the head of the list as a city which leads all others in natural sanitary conditions and healthfulness, I will here reproduce some vital statistics, taken from the May number of the *Sanitarian*, comprising the annual death-rate per one thousand inhabitants, for 1895, in the following cities:

Compare the death-rate of Phœnix, Ariz., 5.04, with that of Salt Lake City, Utah, 7.37; Minneapolis, Minn., 8.96; St. Paul, Minn., 9.86; Buffalo, N. Y., 11.12; Denver, Col., 10.57; Kansas City, Mo., 13.28; Concord, N. H., 14.05; Milwaukee, Wis., 14.37; Los Angeles, Cal., 15.84; Tampa, Fla., 20.59; Portland, Me., 24.75; Mobile, Ala., 29.44; St. Louis, Mo., 17.07.

These few will serve to make my point; the other principal cities of the United States, with their more or less perfect sanitary conditions, range between Kansas City, Mo., with her 13.28, and Mobile, Ala., at 29.44,

As to diseases and their curability or alleviation by the climatic conditions and surroundings of the Salt River Valley, I have tried to be sufficiently explicit, and will leave you to draw your own conclusions and make your own deductions.

REPORT

OF THE

SECTION IN PÆDOLOGY.

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Sectional Address.

By Benjamin F. Bailey, M.D., Lincoln, Neb.

During the last year or eighteen months the study of pædiatrics has seemed to receive a new impetus. For several years prior to that, Keating's work was about the only one issued from the press. In our own school we were absolutely without special literature on the subject. During these few months many books have been issued upon the subject of pædiatrics. Among the more important we notice the work of Thomas Morgan Rotch, of Harvard Medical

School, entitled *Pædiatrics.* If we omit therapeutics, we may well grade this as a classical work. In our own school we have *Diseases of Children.* by C. E. Fisher, M.D., of Chicago. This work is evidently the result not only of personal experience, but of a careful compilation and analysis of the literature and published experiences of the profession. It is well written, systematically arranged and thoroughly adapted to the use of the student and practitioner. *Diseases of Children,* by Robert N. Tooker, has, during the same months, been laid upon our desks. It is a most interesting work from the mind of an independent thinker. I understand we are promised a work upon the same subject by Dr. Martin Deschere, of New York City. Burnet, of England, has given us another of his unique little works, entitled, *Delicate and Puny Children.* As small as the little ones of which it treats, a babe among books, in that it treats of newly developing ideas, but not by any means puny. One who reads it becomes possessed of new enthusiasm and hope in the work of building up stronger men and women to do our work as we shall lay it down. Then last, and possibly least, comes the little volume of 300 pages just now issued by the members of your Section of Pædology for this year. This was not written with any idea of asking an especial indorsement of the Institute for a special work, but rather for the awakening of our own members to the work of conning the field properly covered by their section, and the giving to the profession as a result of their interest a *résumé* of the present status of pædiatrics. You will miss in this volume all mention of the eye, ear, nose and throat, partially on account of lack of space, and partially because we believe these subjects belong more properly to the specialist. When the short time to prepare the work is considered, we believe it will be found of much value, although from start to finish, from the setting of the first type to the issuing of the entire edition of 2500 copies, was less than four weeks, it presents itself as a good product of a Western publishing house. Bulwer says: "Books widen the present by adding to it the past and the future." Bulwer spoke truly, and yet, though a large per cent. of the general practitioner's patients are among the "bairns," it is remarkable how few works upon the diseases of children will be found upon their shelves. Too many trust to the mysteries of intuition in the study of children's diseases. Intuition is not necromancy, for necromancy. having no basis of origin, is nothing. Intuition has as the basis and origin of its lustre early experiences and knowledge already attained. The desirable

income attached thereto and the rapid recognition of the public has, during the last decade, developed the surgeon and gynæcologist at the expense of our Materia Medica and our Pædiatrics. Let me not be understood as casting slurs. I am a gynæcologist myself, and thoroughly enthusiastic upon the subject, but to my mind the patching and repairing of bodies rent by the storms of life is not as far-reaching in its results as the thorough building from the foundations of babyhood, of a building which shall reach out into generations to come, and which may render our children and our children's children, better fit to resist the strains of maternity on the one hand, and the shocks of modern business life on the other. The active physician in his busy life, touched with the health and enthusiasm that seems to be so commonly vouchsafed to the professsion, hardly grasps the thought of an Emerson when he tells us that, "Life invests itself with inevitable conditions which the unwise seek to dodge, which one and another brags that they do not touch him; but the brag is on his lips, the conditions are in his soul. If he escapes them in one part, they attack him in another more vital part."

Let us as Homœopaths and as physicians seek the weakened parts of the growing frames of childhood and bind them with the brace and sinews that are, or should be, the outgrowth of a hundred years of Homœopathy. I can but concur with Burnet when he says: "Allopathy is at an advanced stage of senile decay, from which there is no recovery." Nothing has in a greater degree hastened its senility and its probable demise than its unwillingness to consider the opinions of any but its own. With the Old School not to believe has been an argument, and many a good thing has been condemned solely on account of its ancestry. Let us show ourselves of a more judicial mind and not be too ready to condemn the research of those in other schools of medicine. Pardon the example, but the seed that germinates in the cast-off offal of the alley may, if properly trained and tended, become the noblest tree of the home. So I believe it would be wise if, instead of saying, "We do not believe," we should have connected with the American Institute a section for scientific research composed of candid men in touch with a good bacteriologist and equipped with a proper experimental laboratory, this section to take up *seriatim* the careful examination of the notable discoveries of the year and make report thereon at each meeting of the Institute. In many cases condemnation of supposed discoveries would surely be the result,

and said condemnation would rest upon authentic and properly demonstrated grounds. On the other hand, much might be condemned amid the rescue of a kernal of truth which, illumined by the light of similia, might, like bacillinum, save many a life, while the grosser tuberculinum of Koch can be of use only in diagnosis and in the experimental work of the laboratory. It will not do for us to set back and calmly say, we, as Homœopaths, do not need these things; it may be true, but neither do we need the mental philosophy of our college days, except as it teaches us, as Hahnemann's father taught him, "to think." The methodical, systematic training necessary in doing research work will make us better students of materia medica, which can only be mastered by a methodical and analytical mind. Further, a year does not pass that we do not have to meet the members of the other school in common combat, and it is most certain that we can better defend our own cause if we are thoroughly acquainted with the grounds upon which our competitors stand.

The great study of the coming decade in pædiatrics will be hygiene and prophylaxis, and in our remedies we hold the key to the royal secret. Experimental work will teach us when and how to use the key which we hold. For more than a year I have been striving to so arrange the conditions at the United States Experiment Station in Lincoln, that a series of experiments as to the prophylactic power of our remedies might be carefully carried out. I trust the point has now been reached where I will be able to begin this work.

But enough, lest I weary you with hopes that are the natural outgrowth of a year's pleasant association and interchange of ideas with the fifteen or sixteen earnest workers of your Section of Pædology. In all the year's work among these, there has never been evident on the part of any one a thought of self. Untiring zeal, earnest work and genial, helpful good-fellowship have been evident all along the line. May the work that we have tried hard to begin be pushed steadily on to a finish. Remember some one has said: "The fleas would have dragged me out of bed had they been unanimous." Let us at least be as powerful as the fleas, and we may yet live to have a greater respect for the work we have ourselves done, and to see the so-called "regulars" sacred only in memory.

The Treatment of Scarlatina and Measles.

By Geo. B. Peck, M.D., Providence, R. I.

Do Homœopathists really practice Homœopathy? This question, ever imminent, has never been more significant than at present. That the professed followers of Hahnemann have not materially departed from his teachings during the century that has elapsed since he first publicly announced a method of treatment based on natural law will become plainly manifest to the most casual reader of the following facts.

Seventy-two per cent. of the members of the American Institute of Homœopathy are *accustomed* to administer prophylactics to those who have been exposed to the contagion of scarlatina; 10 per cent. occasionally prescribe them, and 3 per cent. when called for by patrons. Fourteen per cent., however, do not prescribe for persons until some indication of perturbed function is discernible. Considerably more than half my correspondents omitted to specify the medicament dispensed—for obvious reasons it was not asked for—yet it is certain that 34 per cent. resort to belladonna (a single individual only dropping as low as the tincture, and but 2 per cent. to the first decimal dilution.) Three per cent. merely remarked they gave the indicated remedy; but Apis mellifica, Mercurius iodatus ruber, Psorinum and Sulphur are each believed to be that magic drug by 1 per cent., while single individuals ascribe that fortunate attribute to Kali chloratum, Rhus toxicodendron, and Carbolic acid, twelfth decimal.

Although the fact cannot be too often emphasized that any remedy may be demanded in the treatment of any so-called disease, it may be alike interesting and profitable to note that the following drugs have been called for, with the *relative frequency* indicated, to combat the specific poison of scarlet fever:

Belladonna, 31.2 per cent.; Rhus toxicodendron, 11.0; Aconitum napellus, 9.9; Apis mellifica, 8.4; Sulphur, 4.4; Arsenicum album, 4.3; Bryonia, 4.1; Mercurius iodatus ruber, 3.9; Mercurius vivus, 2.1; Gelsemium, 2.1; Ailanthus, 1.3; Arum triphyllum, 1.2; Mercurius iodatus flavus, 1.2; Kali bichromicum, 1.0; Lachesis, 1.0;

Pulsatilla, 1.0; Veratrum viride, 0.9; Mercurius corrosivus, 0.8; Ferrum phosphoricum, 0.8; Kali muriaticum, 0.7; Phytolacca, 0.7; Baptisia, 0.5; Mercurius cyanatus, 0.5; Calcarea carbonica, 0.4; Mercurius solubilis, 0.3; Kali hypermanganicum, 0.3; Kali phosphoricum, 0.3; Terebinthina, 0.3; Stramonium, 0.3; Hepar sulfuris calcareum, 0.3: Ipecacuanha, 0.2; Cantharis, 0.2; Arsenicum iodatum, 0.1; Tartar emetic, 0.1; Carbolic acid, 12x, 0.1; Allium cepa, 0.1; Ammonium carbonicum, 0.1; Lac caninum, 0.1; Kreosotum, 0.1; Hyoscyamus, 0.1.

The following orders have been left by attending physicians regarding the diet of their scarlet fever patients. The figures indicate the percentage of the entire number of our practitioners who direct the use or disuse of any specified article during the acute stage of the disease. Milk, 88; broths, 28; gruels, 19; malted milk, 14; toast, 10; fruit and beef tea, each, 7; bovinine and eggs, each, 6; beef extracts, Mellin's food and mutton broth, each, 4; bread, soups, rice, grape juice, fruit juices, chicken soup and oat-meal gruel, each 3; beef peptonoids, liquid foods, cereals, barley water, koumiss, buttermilk, rice water, liquid peptonoids, white of eggs, ice cream and imperial granum, each 2; raw eggs, oyster broth, vegetable broth, farina porridge, prepared foods, oysters, peptonized milk, raw meat juice, beef juice, beef, beef broth, junket, cornstarch, flour gruel, farinaceous diet, any suitable article, "nothing," "no grease," each, 1; custard, bean soup, milk punch, Best's tonic, matzoon, Murdock's food, Bovox, starches, slippery-elm tea, tapioca, sago, soft foods, lithia water, albumen, lamb broth, granula, milk porridge, light chicken, subacid fruit, brandy and water, lemonade, olive oil, orange juice, baked apples, unbeaten raw egg, rolled wheat, whole wheat gruel, cracker gruel, barley gruel, grape fruit, egg-nogg, toast water, blanc mange, panada and oatmeal, each ½ per cent.; such, also, forbid coffee, tea, starches, sweets, spice and meat.

By attention to the throat during an attack of scarlatina should be understood the use of sprays, gargles, or other topical applications to the more accessible portion of the alimentary canal. Thirty-two per cent. of our practitioners render *no such service* thereunto, and 17 per cent. more, but *rarely*. As may be expected, those who employ such adjuvants confine not themselves to any single germicide, hence while the number reporting the use of a given substance is correct, the proportionate number pursuing the practice cannot be ascertained by adding the several percentages. Peroxide of hydrogen is used to a greater or less extent by 19 per cent.; alcohol

and water by 11; Permanganate of potash and Listerine, each by 6; "antiseptic gargles," "antiseptic sprays," hot-water gargles, Carbolic acid and Hydrastis, each by 2; Hamamelis, salt and water, glycerine and water, Boracic acid water, Chlorate of potash, Chloride of lime gargle, vinegar and water, hydrozone spray and cleansing sprays and gargles, each by 1 per cent.; while lime water, Calendula, Phytolacca, hydrozone, alcohol and lemon water, Acetic acid, Cocaine spray, mucilaginous drinks, flour of Sulphur, alum gargle, claret gargle, milk and water gargle, hot-milk gargle, water and gum of Guaiacum, pinopin spray, alkaline spray, alkaline gargle, Dobell's solution, Sulphurous acid, Seiler's tablets, a mixture of equal parts of chlorate of Potash, glycerine and water, another of alcohol, glycerine and water, a gargle of warm milk with creosote, and a gargle of hot water containing a few drops of a mixture of Iodine one part, glycerine eight parts, are mentioned by ½ per cent.

Children suffering from scarlatina are not bathed at all during the eruptive stage by 23 per cent. of our practitioners, rarely by 9, sometimes by 2½ per cent., say "often." Twenty-six per cent. use tepid water (100°F.), 11 hot water (110°F., or above), 12 carbonate of soda water, 7 alcohol and water, 4 plain water, 2 lukewarm water, 1 carbolized water, Acetic acid water, ammonia water, borax water, cold water and castile soap water; while ½ per cent. mention hot pack, alkaline baths, cold milk, boiled milk, lukewarm milk, hot milk and water, half-and-half, bran water, whiskey and water, cider vinegar and water, if temperature is high, oatmeal water, warm olive oil, antiseptic solution, warm vinegar water, Hamamelis, a listerine sponge, and a cider vinegar water sponge if the temperature be high. Another ½ per cent. bathes the extremities alone with tepid water. Where the temperature has not been stated, 12 per cent. will be found to prefer the tepid, 4 the hot, 2 105°F., 1 each 95°F. cool, and 60° to 80° F., while ½ per cent. vaguely says warm.

Eighteen per cent. of our members *never* "grease" a scarlet fever patient, and 8 per cent. more but rarely. Six per cent., however, commence that ceremony on the first appearance of the rash, 23 when the pruritus becomes annoying and 26 when desquamation takes place. Still more definitely, 1 per cent. select the fourth day for the inauguration, and ½ per cent. the fifteenth day. Olive oil appears to be the favorite unguent, for it is ordered by 25 per cent., but vaseline follows closely with the endorsement of 20 per cent. Fresh lard is used by 15, bacon by 14, carbolized vaseline by 10, cocoa butter by 9, carbolized oil by 4, cocoanut oil and lanolin

each by 2, cold cream, eucalyptus oil, carbolized cosmoline, calendula cerate and petrolatum each by 1 per cent., while sweet almond oil carbolized, animal oil, vaseline ℥j. to thymol gr. j., carbolized cocoanut oil, glycerine and rose water 1 to 3, cold cream and glycerine, equal parts, rose water and lard, mutton suet, beef tallow, green olive oil, carbolic ointment, glycerine, carbolized cerate, camphorated oil, borated olive oil, half and half, and El Quito oil are mentioned by ½ per cent.

When owing to some specific neglect on the part of the nurse the eruption suddenly recedes, 17 per cent. of our number meet the emergency with the remedy alone. Of this number $\frac{1}{10}$ per cent. state they never fail, although an equal number meet with little success, while the remainder affirm that their results are to be considered good. Seventeen per cent. resort to the hot bath as an adjuvant, though $\frac{1}{10}$ of a per cent. meet with little success. Twelve per cent. use the hot pack, 1 per cent. having little succes and $\frac{1}{4}$ per cent. lose one-quarter of such cases. Tepid baths, tepid packs, cold packs and heat are employed each by 3 per cent. of the doctors with no complaint. The wet-sheet pack and the pack (nature unspecified) are ordered each by 2 per cent., although $\frac{1}{10}$ representing each article declare them unsatisfactory. A hot mustard pack, sweating and a cold bath are each administered by 1 per cent., while a hot sponge bath, a hot corn pack, hot water to the extremities, sponge baths, a tepid sponge, a prolonged hot bath, elevation of the temperature three to five degrees, friction which never fails, a steam bath, which seldom succeeds, a ginger poultice, a cold flannel sheet, application of cold to the head, a hot mustard plunge, a hot mustard bath, a hot red pepper bath, immersion in salt water and "a cold water pack, frequently followed by a death certificate," are mentioned each by less than ½ a per cent. Concerning medicaments, 9 per cent. tersely state they give the indicated remedy, but 21 per cent. generally find that to be Bryonia, 6 Cuprum metallicum, 5 Zincum, 4 Cuprum aceticum, as many Sulphur, Arsenicum album and Aconitum napellus; 3 Gelsemium and as many Camphor; 2 Apis, as many Rhus toxicodendron and also Pulsatilla; 1 Belladonna, as many Ipecacuanha and also Veratrum album, while less than ½ a per cent. mention Veratrum viride, Pilocarpine, Arum triphyllum, Exanthol, Opium, Calcarea carbonica, Calcarea sulfurica, Cocculus, Cuprum Arsenicosum, Ammonium carbonicum and Eupatorium perfoliatum. Two per cent. mention the giving of hot drinks, a trifle over 1 per cent. cooling drinks and less than ½ a per

cent. hot lemonade, copious draughts of cold water and a hot sling. Considering success in general, 26 per cent. meet with good, 5 never fail, 4 have little success, less than ½ a per cent. report moderate, and the same number a mortality of one-quarter. When my tabulation was half completed I became impressed with the number of those who reported they never had encountered a case, and it is a matter of deep regret the exact proportion is unknown.

Convalescent diet is ordered by 13 per cent. of our doctors after the subsidence of the fever, while 3 per cent. more particularly designate that the temperature shall be down to 99° F. A like number recognize the supervention of desquamation as the proper indication for a change in the nourishment, while 2 per cent. wait until the rash has disappeared. One per cent. wait until the close of the third week, less than ½ a per cent. to the close of the second and an equal number only until the patient is out of bed. Twenty-six per cent. direct a light and nourishing diet, 5 per cent. simple food, as many a liquid diet, 4 per cent. a reasonable diet, 3 per cent. a farinaceous diet, 2 per cent. a generous diet, as many a semi-liquid bland diet, also ordinary diet. Eggs are recommended by 8 per cent., fruit, milk and broths by 6, bread and toast by 5, cereals by 4, soups, custard, rice, baked potatoes and gruels by 2, cooked fruit, oranges, baked apple, bananas, rare beef, meats, solid food, lamb stew, young pigeon, malted milk, steak and beef broth with rice, by 1, mushes, crackers, sago, chicken, grape juice, onions, oysters, prepared foods, cocoa, beef juice, currant jelly, beef peptonoids, beef tea, fish, vegetables, fruit juices, game, starches, wine whey, bovinine, and lamb chop by less than ½ a per cent. The following articles are forbidden: Meat by 8 per cent., fats and fruit each by 1 per cent., beef tea, broths, fish, eggs, oatmeal, spices, farinaceous foods and sweets each by ½ per cent.

When the bath is not recognized as a proper accessory treatment for scarlatina it is first administered after desquamation by 20 per cent., at the beginning of desquamation, by 6 per cent, when desquamation is three-quarters completed, by 2 per cent., after the eruption has disappeared by as many, and also after the fever has declined, on the fifteenth day, by 1 per cent., and at the end of the fourth week, when the temperature becomes normal, on the forty-second day and two weeks after the eruption, by ½ per cent. Ten per cent. make it of tepid water and 5 per cent. of hot water; 4 direct a sponge bath; 2 use soda water, as many tepid soap and water and also carbolized water; 1 per cent. prefer alike a hot salt

water bath, a bran bath, a Bichloride of mercury bath and an alcohol and water bath; ½ per cent. order soda and borax, hot soap and water, a tepid alkaline antiseptic, a Boracic acid, an Ammonia sponge and a warm salt and water sponge bath respectively. Where the temperature is not mentioned in the preceding list 2 per cent. have the liqid hot and 3 per cent. tepid.

It is gratifying to announce that more that 93 per cent. of our members have not varied the management (treatment) of their scarlet fever cases through deference to current theories as to the nature of the disorder. While it is true that here and there one remarks that he has made some change in diet, or dropped some antiseptic in the bathing water, or scattered some germicide in ill-looking throats, the ringing declarations of devotion to a law of nature that has withstood the storms and the assaults of a century are ample proof that the rank and file of the profession will never be enticed from the rock of eternal truth by the vagaries of so-called science, however brilliant and specious they may appear. Their experience has proved the truth of Hahnemann's assertion, that whoever works as he worked, will attain the same results. The history of medicine during the past five years, not to say the last two thousand, amply proves that a knowledge of the causation of a disease affords no assistance to the accomplishment of its cure.

Fifty-seven per cent of the members of the American Institute of Homœopathy inflict neither "powder" nor "grease" upon patients suffering from measles, 12 per cent. rarely do so, 14 per cent. omit powder and 12 per cent. omit grease. Ten per cent. only answered the question affirmatively. Vaseline is ordered by 10 per cent. of the doctors, olive oil by 8, old bacon, lard, carbolized vaseline and cocoa butter each by three, sweet almond oil and cosmoline each by two, carbolized olive oil and camphorated oil each by one, carbolized sweet almond oil, lanolin, glycerine and rose water, calendula cerate, carbolized glycerine, cocoanut oil, goose grease, ox marrow and castor oil half and half, eucalyptus oil and phytolacca cream each by one-half per cent. Starch is used by 4 per cent., talc and corn starch each by 3, rice flour, rye flour and buckwheat each by 2, flour and boracic acid each by 1, fuller's earth, zinc oxide, arrow-root, bran and resorcin each by one-half a per cent.

During an attack of measles 8 per cent. of our practitioners do not order baths, and 4 per cent. but rarely. On the contrary 20 direct their use at the beginning of the attack, 11 per cent. after the appearance of the eruption, 10 upon the disappearance of the rash,

7 when desquamation occurs, 8 when the patient is convalescent, 4 when it is restless, 3 after the fever has subsided, 1 per cent. each on the seventh day; the sixteenth day, when there is excessive itching and two weeks after the eruption has disappeared; one-half per cent. on the fifth day, on the eighth, on the twelfth and after the catarrhal stage. Concerning their nature 29 per cent. say they use tepid water, 16 per cent. a sponge bath, 10 per cent. a hot bath, 6 a soda bath, 3 alcohol and as many warm soap and water, 2 a cold sponge, 1 alkaline baths, water carbolized and bran baths, one-half lukewarm milk sponging, alcohol and water half and half, a bichloride of mercury bath, tepid water and cider vinegar, tepid alkaline antiseptic bath, warm salt-water bath with antiseptic soaps, boiled milk, cold milk and water half and half, an antiseptic bath and a warm foot bath. Concerning the temperature of those not already particularized 12 per cent. order them tepid, 7 per cent. hot, 1 per cent. 80° F. and as many 105° F.; one-half per cent., 90° F., and as many lukewarm. Furthermore, one-half per cent. resort to carbolic acid water when the eruption is well out, to cold water if the temperature is high, to an agreeable temperature of the bath whether hot or ice cold if in the second stage, to a sponge bath if the fever is high, and to hot salt water if the eruption is too dark or lasts too long.

It may not be unprofitable to note the variety of foods prescribed during attack of measles in the order of frequency of use. Milk is ordered by 71 per cent. of our doctors, broths by 23, gruels by 16, malted milk by 11, toast by 10, beef tea by 7, rice, fruit and eggs each by 5, cereals by 4, bread, chicken broth, oatmeal gruel, mutton broth and soups each by 3, grape juice, beef extracts, fruit juices, Mellin's food, bovinine, liquid peptonoids and "anything" by 2, cooked fruit, oyster broth, potatoes, farina porridge, beef juice, peptonized milk, buttermilk, toast water, lamb broth, barley water, koumiss, cocoa, ice cream, custard, beef broth, jelly, light puddings and granum by 1, bean soup, onions, prepared foods, meats, Best's tonic, raw-meat juice, starches, oranges, rice water, baked apples, tapioca, lemonade and raw egg, corn starch pudding, egg and milk, whey, junket, albumen, flour gruel, granula, alkathrepta, white of egg, arrowroot, eggnog, albumen water, wheat germ, grape fruit, rolled wheat, blanc mange, beef broth with rice, wheatlets, cracker gruel, whole wheat gruel, beef peptonoids, panada, mush, milk and whiskey and barley gruel each by one-half per cent. The following articles are forbidden: meat, grease and milk each by 1 per cent., fruits, starch, sweets, cold milk, spice and prepared foods by one-

half per cent. Certain physicians preferred, however, to employ more general terms, to wit, a light and nourishing diet by 8 per cent., a liquid diet by 6 per cent., a reasonable diet by 2 per cent., a farinaceous diet, a liquid and bland diet and a mild diet each by 1 per cent., a semi-solid diet and a generous diet each by one-half per cent.

To the victim of measles the following beverages are permitted by the number of practitioners respectively indicated: Water, generally cold and to any extent desired, by 80 per cent.; lemonade, 23; tea, 8; orangeade, 5, and as many milk; fruit water, 4; grape juice and toast water, 3; coffee, flaxseed tea, barley water, rice water, crust coffee, mucilaginous drinks, plain soda, warm drinks, hot lemonade, fruit juices and "none," by 2 each; cocoa, aerated waters, acidulated drinks, crushed ice, Vichy water, tamarind water, orange juice, cider, Apollinaris water, ginger ale and cambric tea, by 1 each; orange leaf tea, hot punch, whiskey occasionally to allay cough and promote sleep; ice cream, apple water, chocolate, ice water, tea with lemon, buttermilk, currant jelly water, hot water, hot water and cream, berry juices, slippery elm tea, lithia water, claret, milk seltzer, egg lemonade, sherry and egg, cold milk and water, with salt and sugar, brandy and milk, cream of tartar water, acetic acid water, champagne, milk punch, hot water and milk, pop-corn water, 1 to 3, after standing fifteen to thirty minutes, and "any cool drink," ½ per cent. One per cent. forbid each stimulant, coffee and tea, while ½ per cent. each prohibit hot drinks, cold drinks and ice-water.

The relative frequency with which remedies are prescribed during measles is Pulsatilla, 23 per cent.; Aconite, 21; Bryonia, 20; Belladonna, 6; Gelsemium, 5; Euphrasia, 3; Rhus toxicodendron, Ipecacuanha, Sulphur, Tartar emetic, each 2; Mercurius vivus, Hepar, Arsenicum, Phosphorus and Ferrum phosphoricum, each 1; Mercurius solubilis, Veratrum viride, Sanguinaria, Sticta pulmonalis, Drosera rotundifolia, Kali bichromicum, Rumex crispus, Kali muriaticum, each by ½ per cent.

It may be desirable to call attention once again to the fact that all the numerals in this paper are percentages of the ordinary homœopathic physician, except in the two paragraphs giving the remedies for the cure of the respective disorders mentioned, where they indicate the number of times a particular drug is given in every hundred prescriptions, taking the entire country as the field of observation.

DISCUSSION.

T. C. DUNCAN, M.D., Chicago, Ill.: I have listened to the paper with the greatest interest. It was in the early days that Hahnemann confronted an epidemic of scarlet fever in all its severity and proved the value of Homœopathy. Perhaps some of you have a copy of the picture of Hahnemann sitting by the bedside of a sick child, entitled, "Hahnemann Discovering Homœopathy." I investigated its history and found that in the early days of his investigations, while looking for the similia for the smooth scarlet fever of Sydenham, he decided upon Belladonna, and such it has proved to be. We little realize how much Belladonna has done as a prophylactic for scarlet fever throughout the world, and advanced the cause of Homœopathy. In 1872 I had the honor of introducing a resolution before this Institute providing for a Bureau of Pædology, but it met with much opposition because it was thought that there were not a sufficient number of members interested in children's diseases. I am very glad to see that disproved. I am glad that Dr. Peck has felt the pulse of the profession all along this line. Why do we have epidemics of scarlet fever? Hahnemann was right when he said there was an epidemic remedy. We meet different forms of this fever. Now it is the smooth variety of Sydenham, involving the kidneys, and here Belladonna seems to meet the requirements. Then there is another, a popular form, almost like measles, the papulæ coming through the surface, and here Belladonna is not the remedy, but Rhus. We have a host of remedies indicated in the after-treatment. I have seen several epidemics of this disease, and can think of nothing with as much satisfaction as providing mothers with Belladonna during an epidemic of scarlet fever. I caution them to give it but once or twice a day.

GEO. ROYAL, M.D., Des Moines, Ia.: I have been much interested and pleased. There is one point I desire to refer to. I wish the percentage could be obtained as to the result secured by those who do not use oils of any kind. My experience has taught me that if I use oil and anoint the child thoroughly I have more renal complications to fight. I believe that the use of oil is responsible for many of the renal complications of this disease.

L. C. GROSVENOR, M.D., Chicago, Ill.: We have listened with much interest to the paper of Dr. Peck, but he failed to say anything of the sequelæ of scarlet fever, and they are frequently more dangerous and more difficult to treat than the fever itself. What are those sequelæ? Among them the most frequent is acute desquamative nephritis. Now, I believe it is possible to escape fully three-fourths of these troubles by proper feeding. My cases have had milk almost exclusively, excepting where they have been given malted milk. Then, too, we find cases of malignant scarlatina, or of scarlatina anginosa, with chills, vomiting, then high temperature, delirium, hot, red skin, the peculiar strawberry tongue, etc., where the remedy seems utterly powerless to bring the temperature down.

One case will illustrate. I was called to see a boy of seven years; there was vomiting, violent chill, then violent reaction, temperature 105 and 106, pulse 140 to 150, with pupils widely dilated. I told the mother that we should lose the child unless we could reduce the temperature, so I made up my mind to put him in a pack. I placed two blankets on the couch and a sheet over them. I dipped a large towel in tepid water and covered and rolled him in it, doing the same for the arms and legs separately, so he could move them. He went to sleep and slept three hours, and the temperature came down to 100½ in less than three hours. Next morning, temperature 101 and delirium gone. Some people look horrified when I speak of the use of tepid water in scarlet fever, but there is no danger if you allow them to cool slowly. Put in Boracic acid or Listerine, if you desire; they will do no harm.

W. H. HANCHETT, M.D., Omaha, Neb.: We are very grateful to Dr. Peck for the work he has done on his paper; he is noted for his good work. His statistics are fair and the paper is valuable. Belladonna seems to be the remedy mainly used; most physicians have had the best success when using it. But it also shows that Belladonna is not always the remedy. We are apt, even in our school, to drop into routine prescribing, and it is just as important to select the proper remedy as it is to give Belladonna when it may be indicated. I frequently find other remedies called for, although Belladonna may be the best prophylactic. I wish that Dr. Peck, while collecting his figures, had asked about the final outcome or results. My attention has been attracted in this direction during the last five years. Across the river from me is a large asylum for the deaf and dumb, supported by the State of Iowa, having generally about six hundred patients. They are interrogated, after name and address have been taken, as to the cause of deafness, and it is found that in about 25 per cent. of all cases it was the result of scarlet fever in childhood. For the past five years the asylum authorities have endeavored to ascertain the school of the practitioner who treated the child for the scarlet fever. In nearly all cases it was found that the cases came from the Old School; it is rare, indeed, that a case is charged to Homœopathy.

ROBERT WALTER, M.D., Walter's Park, Pa.: I treated the various diseases of childhood for twenty years without any medicine. I have never had but one death from diphtheria, and that was where the treatment was not properly followed. I have never had but one case of sequelæ from scarlet fever, and that wasthe result of gross neglect on the part of the nurse. I rely mainly upon dieting, bathing and enemata, giving no food until the patient is ready for it. The grandest absurdity imposed upon the world is making a sick person eat when he does not want to. Give him all the water he wants, without food, and at the end of three days you will see the tongue clean off, and he will ask for food. Leave the stomach empty and the circulation free and you will have good results. For fever I use the

tepid injection, as well as tepid sponging, which will often bring the fever down 2 or 3 degrees in an hour; nothing will do it so effectually. If the patient wants lemonade or orangeade, give it to him, but no food, as food, for twenty-four, forty-eight or seventy-two hours. In diphtheria, if you will put pounded ice on the throat you will have no need of antitoxin.

HIRAM L. CHASE, M.D., Cambridgeport, Mass.: I will give you a page from the experience of an old man, for I am probably the oldest practitioner of Homœopathy in this Institute. Many years ago I looked up Belladonna as a prophylactic in scarlet fever, as proposed by Hahnemann. He told us that Belladonna was prophylactic only in the smooth scarlet fever of Sydenham; where there are papular eruptions, coming out above the surface, Belladonna is not Homœopathic and is not a prophylactic. I use cold water; I roll the baby in a cool pack and keep him there for an hour, and then, if the rash has not come out, or is imperfect, I put him back in the pack again. Occasionally I use the enema. I have no trouble as a rule. In some cases, however, and in other fevers, the patient is dead from the start. I have seen these cases, too, with sadness and sorrow; every man who has practiced thirty years has seen them. I remember the case of one little child, living over two miles from any other house, taken with convulsions followed by profound stupor. The throat was perfectly black, and convulsion followed convulsion in spite of all I could do. All the flesh between the sterno-mastoid muscle and the chest sloughed away. The child could not swallow any nourishment, but lived for seventeen days. I sincerely trust that none of you will ever have such an experience. The child was poisoned through and through, and medicine was of no avail. I had one case where the bones of the ear came away. I have been in practice for fifty years, have seen all sorts of cases and am not afraid of the use of cool water.

LAMSON ALLEN, M.D., Worcester, Mass.: I suppose I owe my life to the treatment mentioned by Drs. Chase and Grosvenor. I had scarlet fever at an early age and was treated by a former member of this Institute, Dr. Thomas Scales, who put me in a cool pack. I remember it, although it was thirty-seven years ago, and mention it only in gratitude to our family physician. I arise particularly to ask the members present if they have had any experience in the treatment of scarlet fever, where, previous to their arrival, the parents had administered saffron tea. In the locality where I first practiced it was the invariable custom to get in a few doses of this saffron tea before the doctor arrived. Whenever this was given I have had kidney trouble to fight, although I have had to do with only one or two cases of nephritis in other cases.

H. C. ALLEN, M.D., Chicago, Ill.: I want to say that this wonderful uniformity is no indication for the use of Belladonna in scarlet fever or as a preventive. As Dr. Chase has said, Hahnemann told us

that it is indicated only in the smooth, shining scarlatina of Sydenham; Belladonna, given by the family as a preventive remedy, in the 3d, 4th or 6th potency, two or three or four times a day, is liable to get the patient and doctor into trouble—these are the cases which are dangerous, for the patient has an artificial and natural disease to overcome. It does not prevent the ordinary scarlet fever we are having now, and it may ruin the patient.

As to feeding, I think Dr. Walter and others are right. Never feed a patient until he is hungry. Let the patient alone and stop stuffing him with milk or broths or beef tea; give him water. This applies to scarlet fever, measles, typhoid or any acute disease. Try this plan and see how few complications you will have to deal with, and how your death-rate will decrease. I wish some of our specialists in pædology would study the epidemic of scarlet fever we are having now and tell us the genus epidemicus. I have never in thirty years seen but two epidemics of scarlet fever where Belladonna was the genus epidemicus or the prophylactic remedy. Sulphur, Rhus and Carbolic acid are more frequently indicated; the latter is seldom thought of by most practitioners.

QUESTION: What strength?

I never think of using it lower than the 200th, either as a preventive or in treatment. Let me ask again, how many doses of scarlet fever does it require to produce the disease in a healthy child? Just *one*. And how large a dose? Did anyone ever see, smell, taste or touch it? Never. Then what is the sense of giving the remedy every two or three hours? The patient did not get it that way. Take the teachings of Hahnemann as your guide and you will get along better. Don't repeat the remedy while the patient is getting better; the bad complications and sequelæ will nearly always be wanting if you will give the remedy in the proper way.

G. B. PECK, M.D., Providence, R. I.: I have never seen any bad results following scarlet fever in my own practice, although admitting that the case might be contracted in so profound a degree that the patient is practically dead from the start; I also know of bad results coming from or chargeable to neglect or bad practice on the part of the nurse. As to the question of prophylaxis I asked no questions. As to the results, you will find ample figures in Strickler's statistics. The little handbook issued by this bureau also gives figures from the half-orphan asylum and from Tobey State Home. These, I think, cannot fail to be satisfactory.

Epilepsy in Children.

By Martin Deechere, M.D, New York, N. Y.

Epilepsy, although clinically known since the time of Hippocrates, is still to-day, one of the obscure diseases. Regarding its origin and pathology, I will, therefore, not attempt to present to this learned body a detailed study of its clinical picture, nor will I endeavor to advance a new theory of its pathology. It is simply my object to draw your attention toward the importance of an early recognition of the disease as it manifests itself in children; for I believe that, if it is curative at all, the earlier a cure is attempted the more satisfactory will be the result.

On account of the great difficulties presenting themselves in the diagnosis of epilepsy in young children, physicians are apt to overlook rather than to suspect its presence. These difficulties culminate in the fact that the varieties in the manifestations and gradations of epilepsy, in connection with the predisposition of infants to convulsions, generally form a conglomeration of confusing similarities.

The physician arriving at the bedside of a child in convulsions will find it almost impossible to differentiate as to the nature of the affection during the attack. It requires continued observation for a long time after the first attack to decide definitely on the diagnosis of epilepsy. Even if, after careful investigation, we can exclude the invasion of eruptive fevers, inflammatory lesion of the central nervous system, malarial poison, uræmia, rachitis or reflex causes, and we consider ourselves justified in suspecting the case as one of epilepsy, we should be guarded in expressing our opinion toward the family, until we have had a fair opportunity in watching the case and corroborating further evidence in favor of our suspicion. The age of the child is of great importance, and cases gain in probability the further the child is advanced in age.

My guiding points for the early recognition of epilepsy are the following:

When called to a child for the first time, which has been suddenly seized with convulsions, after having been in perfect health before, and which remains so after the attack, we may conclude with certainty that the convulsions are not of cerebral origin.

Considering that any rapid rise of temperature, which expresses itself in the form of a chill in adults, may cause convulsions in children—the more so the younger the child—variola, scarlatina, uræmia, etc., should be thought of under such circumstances.

On the other hand, acute cerebral affections of children rarely begin with high fever; we consequently meet convulsions in the initiative stage of these diseases comparatively seldom, except, perhaps, in suppurative meningitis, which has always some promonitory symptoms, or in the fulminant form of cerebro-spinal meningitis, which is extremely rare.

According to Barthez and Sanné cerebral convulsions may be differentiated from reflex and febrile eclampsia in the following three points:

"1. After cerebral convulsions the intellectual and motor functions are more markedly affected.

"2. The duration of the single attack is longer.

"3. Cerebral convulsions are very apt to recur. When in a child over 2 years of age the attacks repeat several times, they are most surely of cerebral origin."

The bulging and pulsation of the anterior fontanelle is of diagnostic value only in conjunction with other brain symptoms. An unmistakable sign for cerebral hyperæmia may be found in the fact of this bulging and pulsation remaining during the remission of the fever, accompanied by continuous stupor.

An exudation into the cranium will cause the fontanelle to bulge perceptibly, and to become hard and resistent to the pressure with the finger. But the absence of this condition during or after a convulsion does not exclude the presence of this condition.

For practical purposes, therefore, it will be useful to differentiate between (1) convulsions with an increase of temperature and (2) convulsions without any fever. The age of the patient is of great assistance.

Convulsions without fever are comparatively rare in children above 4 years of age, and they are then most frequently due to epilepsy. The absolute unconsciousness during, and the deep sleep following, the attack, which latter may last from ten minutes to a full hour, are characteristic. But we will often find attacks of epilepsy which pass even without a convulsion, or which show but a slight twitching of the facial muscles. These, so-called, abortive attacks (*petit mal*) consist in a momentary unconsciousness of the child, accompanied by pallor of the face. Consciousness returns

so quickly that the patient has no time to fall, and if thus attacked while playing or talking, these occupations are immediately resumed, as if nothing had occurred. The patient neither knows nor remembers anything about the attack. Such cases can be diagnosed only by the observation of like seizures of momentary unconsciousness recurring from time to time.

Another point of diagnostic value, in differentiating from uræmia, is the possibility of finding albumin and hyaline casts in the urine for a day or two after an epileptic fit. But uræmia has its pronounced causes in the history of the case.

Prof. Politzer, of Vienna, remarks: "In non-febrile convulsions, which seize the child in the midst of apparent good health, and without any discoverable pathological complication, the time of duration has to be observed, and whether heavy, moaning respiration is present. It is especially noteworthy to observe whether the child passes into a deep, comatose sleep after the attack, followed by headache, prostration and great irritability, and if all of this occurs without fever. In other words, whether the symptoms of a genuine epileptic fit were present or not.

"If all of these conditions have been present during and after the convulsion, it becomes imperative to discard all theories of reflex causes, and to consider the attack due to central origin, relative to genuine epilepsy. But as long as the diagnosis can be warranted only by one or more repetitions of such attacks, it is very important to instruct the parents at the first occurrence, and to impress upon them the importance to note whether a renewal of the convulsions manifests the same conditions. They should also observe the possible appearance of vertigo or headache, with sudden pallor or redness of the face during the time that the child seems well.

"All this solicitude may be considered premature in the face of a single suspicious attack of convulsions, but this is certain, that he who observes it will not be deceived in the further development of epilepsy, and he will have the opportunity of adopting intelligent and effective treatment whenever a second attack will have corroborated his early diagnosis."

How much the education of parents on the subject of caring for their dearest treasures, their children, is necessary, for the purpose of protecting the latter against injury to their nervous system generally, has been strongly forced upon me some time ago, when I was called in consultation to see a boy three years of age, who had repeated attacks of epileptiform seizures. The boy was a handsome,

well-built little fellow, and exceedingly bright for his age. Consequently he enjoyed the admiration of his parents and grandparents. He formed the centre of attraction and conversation at the dinner table, where he was often kept till late in the evening. Children's festivals were arranged in his honor, and all possible dainties and delicacies were granted him without stint. Notwithstanding this he never had indigestion, and his appetite remained good. But he was exceedingly whimsical, obstinate and passionate, and the crowning effect culminated in an attack of convulsions with all the attributes of an epileptic fit, which was followed by others in one or two weekly intervals.

There was no family history. After having listened to the peculiar mode of living of this boy, and after a careful examination of his body as to any discoverable reflex cause for the convulsions, which proved negative, I impressed upon the attendants the absurdity of their methods. I advised the child to be kept in his nursery for his meals, and the overwhelming public adoration to be stopped, which, if continued, would ultimately lead to the child's mental destruction. My rules were obeyed to the letter, and no further convulsions were noticed. The boy's character became more amiable, and gradually normal. About two years afterwards I learned of his unfailing health ever since.

In relation to this topic of parental education, I wish to draw your attention to an article by Dr. W. D. Bayley, of Philadelphia, entitled, "Vanishing Factors in Epileptic Ætiology." (*Hahnem. Monthly*, Nov., 1894, p. 710.) Here the author very appropriately says: "Keeping ever in mind the ease with which transient causes establish the epileptic habit, our therapeutics should be thoroughly applied to them, and should consist of many medicines which do not come out of bottles. The proper education of women for the responsibilities of maternity, the wide dissemination of common-sense principles of infant hygiene should stand foremost. These are only some of the measures which should be generally adopted in order to prevent the entrance into the body of convulsive devils, which, with our limited magic, we are often unable to cast out.

Discussion.

L. C. Grosvenor, M.D., Chicago, Ill.: Dr. Deschere alluded to the training of mothers. Right here I want to recommend the University Extension Lectures. Do not forget the nurses, and see that they, also, are interested.

W. W. Van Baun, M.D., Philadelphia, Pa.: The doctor has read

to us a valuable paper, and he has presented the subject matter so clearly and concisely that I hesitate to discuss it, feeling I can neither add to nor take away from its contents. I desire to heartily endorse his views. He certainly strikes the key-note of success with these cases when he impresses upon us the necessity of an early diagnosis. We have no definite or positive knowledge of what epilepsy is, nor do we know what the real pathological condition is, and as so few of our remedies are curative in genuine epilepsy, and these few only before the epileptic habit becomes well established, that an early diagnosis is of the utmost importance. The doctor has told us clearly how to recognize the true epileptic condition from similar seizures and has given us our diagnostic key-note, by reminding us that a convulsion occurring for the first time after the third year of life is usually epileptic, so that when we are called to a child previously healthy, but who is now convulsed, sinking into a sleep from which it awakens cross and irritable, and then remain apparently healthy, the case is clear. But there may be cases where the convulsive seizure is so slight that the child barely falls over, quickly recovering, or, again, where the unconsciousness is so transient as to scarcely attract attention. In such instances it is well to emphasize the importance of carefully watching the child. In reaching a diagnosis, the most important differentiation is that of reflex convulsions. These are usually longer, are recurrent, and gradually lessen in severity. The epileptic seizure is single, as a rule, of ten minutes or less duration, and does not return for a long time.

I recall having a case similar to the one referred to by the essayist. A child of three years had a single convulsive seizure, lasting about ten minutes. The urine was examined, and albumin and small hyaline casts were found. I suspected a nephritis, but subsequent examinations showed that it was merely an acute expression of an epileptic attack. The doctor's portrayal of the spoiled, bright child is excellent, and as we have probably all met such children it will be well to remember that excessive mental and nervous excitation may lead to convulsive attacks.

In conclusion, I desire to compliment the chairman and secretary of this section. I have been interested in the section of Pædology for some years, and I have never seen so large an attendance, nor such interested attention as we have here this afternoon. This is strong evidence that the Institute appreciates the hard work of the section members. In addition, as a greater testimony of their industry, each member of the institute has been, or will be, presented with a copy of *The Present Status of Pædiatrics*, which was written, published and presented by the members of this section, and for which we now desire to return our thanks.

J. P. Cobb, M.D., Chicago, Ill.: I have enjoyed the essay very much, and, like Dr. Van Baun, have nothing to criticise and little to add. There is just one point which I would like to put in. In distinguishing between epileptic seizures and common eclamptic seizures in children, you will remember that a majority of the

eclamptic seizures, particularly those occurring after the first year of life, are connected with some evidence of a rachitic condition. An ordinary eclamptic seizure occurring after the first year of life is, in itself, almost indicative of rachitic disturbance. It is now pretty well agreed upon that an epileptic seizure should make one equally suspicious of an hereditary influence dating back to syphilis, possibly remote, and showing in no other way. It has been brought forcibly to our mind, in recent operations, that in examining these children, apparently healthy, we usually find some of the evidences of remote syphilis. I am very glad to have heard the paper.

J. P. RAND, M.D., Worcester, Mass.: I should like to ask Dr. Deschere, in his closing remarks, what relation, if any, exists between the casts in the urine and the epileptic seizures. Are the kidneys responsible for the epileptic attacks? Is there any difference microscopically between the casts that appear at this time and the casts that appear other times? How does the epileptic seizure act on the kidneys so as to cause the formation of casts?

DR. DESCHERE: I thank you for your kind reception of my paper. As to the last questions asked, I do not clearly get the idea of what the doctor wants to know. As far as I understand him I would answer, that sometimes we find, after prolonged epileptic fits, albumin and hyaline casts in the urine for a few days. On the other hand, if we really have an inflammation of the kidneys, then, as one of the symptoms, we may have uræmic convulsions with albumin and casts in the urine. Therefore it is necessary to make repeated examinations of the urine in such cases to clear the diagnosis between uræmic and epileptic convulsions.

Pertussis.

By Edward R. Snader, M.D., Philadelphia, Pa.

Definition.—Pertussis is an infectious and contagious disease affecting the respiratory tract in general, and the glottis in particular, characterized by spells of spasmodic coughing, followed by a long-drawn inspiration, accompanied by a peculiar sound, the "whoop."

The cause, according to the prevalent trend of medical thought, is believed to be a micro-organism, as yet, however, unindividualized. The contagion is best transmitted by direct contact. The expectoration probably contains the infectious matter, and if not properly disposed of may lead to domicilary infection. Winter and spring are specially favorable times for epidemics. Sporadic cases occur at any time, and in some localities the disease is epidemic. Measles and whooping-cough are closely related, children with the former disease being specially prone to contract pertussis, and *vice versa*. Pregnant and lying-in women are also specially prone to be attacked. While whooping-cough may occur at any age, the vast preponderance of cases occurs in early years, and in adults attacks are not usually as severe as in the young. One attack is generally protective. Bronchial catarrh and debilitating disorders favor attacks of pertussis, and the latter disease specially favors the development of latent tuberculosis.

Pathologically, an uncomplicated case of whooping-cough is said to present no lesions, although it has been asserted, but by no means proven, that enlargement of the bronchial glands is the cause of the attack. Enlargement of these glands unquestionably occurs in most cases of pertussis, but as a consequence, not a cause. Bronchitis is always found. Congestion of most organs, and particularly of the cerebral meninges, the kidneys, the lungs, and dilatation of the heart, particularly of the right ventricle, are frequent accompaniments of the paroxysms of coughing. When a fatal result ensues, it is usually from some one of the complications, as meningeal hæmorrhage, extensive emphysema, grave broncho or latent pneumonia, always small-tubed bronchitis, heart failure, and convulsions,

inanition, the result of inability to retain food on account of the frequency of vomiting, vomiting being in some cases a grave symptom.

Symptomatically the first stage of pertussis, entered in after a period of incubation of about two weeks, is characterized by the phenomena of an ordinary bronchial catarrh, with, perhaps, a little more of the spasmodic element present in the cough than is found with the ordinary colds on the chest, the cough being specially liable to be almost incessant. After a few days, and sometimes not for three weeks, the cough becomes decidedly more severe, spasmodic and paroxysmal, and the peculiar "whoop" appears. The paroxysms seem to be determined by a spasm of the glottis accompanied by a feeling of suffocation, beginning with several short, spasmodic coughs with expiration, succeeded by a long-drawn inspiration, the whoop. In a few seconds or minutes with a short convulsive cough, or by vomiting, expels a little tenacious mucus, and the paroxysm is over, or is renewed several times until the cough or vomiting efforts succeed in dislodging or expelling the mucus. In severe cases during the paroxysm the face swells, the visible mucous membrane and skin become cyanotic, the eyes protrude, the conjunctivæ are reddened or ecchymotic, and the child has the appearance of one dying of asphyxia. Children are sometimes much frightened at the attack, and warned by some undefined sensation, shortness of breath, a sense of danger, and will run to the mother or nurse for aid or will seek some corner where they can wrestle with the paroxysm undisturbed. They sometimes help themselves by assisting the expiratory muscles, as by placing their hands on their knees and leaning forward. The number of paroxysms that may occur in twenty-four hours varies from three to one hundred, and the severity of the attack is proportioned in general according to the number of paroxysms. During the paroxysmal stage, sub-conjunctival hæmorrhages often occur, and not infrequently into the brain meninges or from the nose. Petechiæ have been noted. The vomiting following the attack, by inducing the rejection of food, often leads to a fatal result from exhaustion. The paroxysmal stage may last from three to six or eight weeks, to be followed by a similar period of ordinary bronchitis with pronounced cough.

Physical examination during the expiratory stage in an uncomplicated case shows considerable diminution in the intensity of the pulmonary resonance, and normal during the inspiratory part of the paroxysm. Bronchial râles are nearly always heard, large and

small, moist and dry, due to the associated bronchitis or in consequence of complicating pulmonary lesions. Auscultation of the respiratory murmur shows degeneration or œdema. Late in the disease, if emphysema complicate the case extensively, the percussion note over the afflicted area is vesiculo-tympanitic in quality, and if the expiratory murmur is heard, it is unduly prolonged.

If broncho-pneumonia supervene and the involved area be large in extent, the percussion note is rendered dull over the site of the lesion, and if the respiratory murmur is auscultable the bronchovesicular or purely bronchial breathing is heard, together with the corresponding vocal signs. In some instances, the sounds produced by breathing are so feeble or take on the character of the breathing over the larynx (sometimes stridulous during a severe paroxysm), as not to present the modifications usually found when the lung is slightly or considerably consolidated, and, under these circumstances, sometimes the only auscultatory signs present when broncho-pneumonia complicates the case, are high-pitched moist râles over the solidified area, with or without the vocal signs. When the bronchial glands are involved. the principal physical sign upon which reliance can be placed is dulness on percussion, in the interscapular region by the side of the third or fourth dorsal vertebra and close to the sternum in front, near the second costal cartilage. The posterior dulness is most to be relied upon. Râles persisting in these regions are also very significant. An increase in the area of heart dulness has been noticed, particularly by Koplik during the paroxysmal stage, together, occasionally, with a slight apical murmur, due to the great engorgement of the right heart, and possibly also, in some instances, to an actual acute dilatation of one or more of the ventricles, due to the great strain to which the heart is subjected during the frequently repeated spells. The heart sounds are often irregular during the paroxysm, and, in protracted cases, or those weakened by previous disease, during the free intervals also. The respirations are not markedly increased, unless some pulmonary or pleural, or gross cardiac malady, or capillary bronchitis, complicates the case.

Sugar has occasionally been found in the urine of pertussis patients, but far more frequent is congestion and actual nephritis, as shown by the presence in the urine of albumin, casts and blood-cells.

When the disease is well advanced there is generally found considerable œdema of the face, especially marked under the eyes.

The paroxysms are precipitated by nervous excitement, irritation anywhere along the respiratory tract, or even by acts of swallowing. According to Rotch, the stage which is accompanied by the whoop and more severe paroxysms lasts for three or four weeks, and sometimes longer, the intensity of the spells gradually subsiding, the whoop becoming less frequent for three or four weeks longer. Uncomplicated cases, taking in the catarrhal stage of the onset, the paroxysmal stage and whoop, and the stage of lessening severity in paroxysms and whoop, last three or four months. Relapses are frequent from slight exposure or atmospheric changes. A persistent cough suggests the presence of a declared or insidious bronchopneumonia, enlargement of the bronchial gland, or a pulmonary tuberculosis or bronchitis. The whoop seems to persist, from habit, in some children, long after the natural time for the subsidence of the disease has elapsed; and this fact somewhat modifies the force of the assertion that infection may take place, that is, the case be contagious, three weeks after the subsidence of the whoop.

Some of the complications that arise in the course of pertussis are grave in character, as, for instances, the very serious bronchopneumonia and emphysema, both of which are very frequently fatal. Spasm of the glottis has caused death in a few instances. Obstinate and uncontrollable vomiting, and the consequent inability to retain sufficient nourishment to sustain life, have led to a fatal issue. Convulsions occur, too. Hæmorrhages are frequent, in consequence of the violence of the cough and the great venous tension, but, except the meningeal ones, are not often of serious import. An ulcer under the frænum of the tongue is found in nearly one-half the cases, due, it is believed, to the friction of the tongue against the central incisors during the paroxysms of cough. The chest is often deformed in long-continued coughs, owing to the yielding of the cartilaginous structure before the force of the cough spells, and may remain so. The diagnosis of whooping-cough is only difficult in the beginning, and even early the history of exposure to infection and an undue spasmodic and nightly aggravation element in the cough may lead to a correct suspicion of the nature of the affection. But when the whoop appears, with the swollen face, the paroxysmal cough, followed by the expulsion of tough mucus and vomiting, the diagnosis is easy.

The prognosis is guarded in young infants, and in older children who are debilitated the outlook is also grave. When complicated, pertussis is one of the most fatal diseases that occurs in early life,

but in the strong and vigorous and in uncomplicated cases in children the prognosis is favorable. Recrudescences are not specially dangerous.

The treatment demands the strictest individualization as to the strength of the patient, the nutritive status, the stage of the disease and the presence or absence of complications. If there is cyanosis during inter-paroxysmal periods, cardiac drugs may be called for; but the nutrition of the sufferer must be sustained at all hazards. The patient should never be left alone, should always be taken up, if an infant, when a paroxysm is approaching, and should be helped, if possible, until the spell is over. Placing the patient in different positions, as bending the head and body forward at the end of the whoop, so as to help by gravity the expulsion of the tough mucus, is sometimes a grateful and helpful act. A finger, with a bit of linen or cotton about it, thrust quickly into the mouth, and catching the mucus in the meshes of the material, is sometimes of service where the mucus is particularly adhesive. Fresh air is a requisite. If possible, two apartments should be used, the one being constantly aired while the other is being used, and *vice versa*. Milk as a diet is important, and enough must be given to sustain the patient's strength. In some cases stimulants must be given early. The burning of Cresolene in a room at night has proven beneficial. Belladonna and Atropine are much used in the Old School. Protracted cases are benefited by a change of air, either to the country or seashore.

Alum has been used, according to Ringer, when the acute stage is over, and the case is uncomplicated, in two- to six-grain doses, in glycerine or honey. Bromide of potassium is believed to be specially useful in whooping-cough occurring in the summer time, with or without convulsive phenomena. Clover, in wine-glassful doses, occasionally during the day, the infusion being made of two ounces of carefully dried red blossoms steeped in a pint of boiling water for four hours. Lobelia has been employed in the spasmodic stage, as has also Opium. Nitrate of silver has been employed as a throat spray in children over three years of age, as has Tannin also. Cannabis indica, Carbonate of potash, Chloride of ammonium, Cod-liver oil, Conium, Ergot, Ipecacuanha, Musk, Senega, Valerian and the Oxide and Sulphate of zinc are also in favor in the Old School. In several cases inhalations of Ether or Chloroform have been resorted to.

A multitude of medicines and measures are in vogue in our own

school. Aconite, Belladonna, Ipecacuanha, Hyoscyamus, Drosera, Mephitis, Cuprum aceticum, Coccus cacti, Corallium rubrum, Aurum bromidum and muriaticum, Kreosote, Stramonium, Kali carb., Bryonia and the Calcareas. Cactonea vesca has been a fair medicine in my hands. Goodno is fond of Napthalin. Crumbaugh says that Ambrosia tincture and Mercurius corrosivus 6 in alternation are almost specific. The so-called Hutchins cure is the administration of but two powders, one of Drosera 3d at first, then after an interval of two weeks, a powder of Carbo vegetabilis. I have heard that the method has some merit in the estimation of some physicians. I have no personal experience whatever with the medicines given in that manner.

DISCUSSION.

C. F. MENNINGER, M.D., Topeka, Kan.: This is one of the diseases of childhood which, of all others, bothers the physician in the selection of the indicated remedy. It has been my experience in this line of cases that I have had the best success when I have most carefully considered the aggravations and ameliorations of each particular case. I have had a great deal of help in the study of these cases from Bœnninghausen's *Pertussis*, and would advise every practitioner to procure a copy of this work. With its assistance they will be better able to find the indicated remedy.

W. H. HANCHETT, M.D., Omaha, Neb.: I consider it, in a child under three months of age, the most dangerous disease peculiar to childhood. I had rather treat a case of scarlet fever than a case of malignant pertussis in a bottle-fed baby. Brain troubles are one of the greatest causes of death in long-continued cases of whooping-cough and bring in a train of complications very much to be dreaded.

J. H. MOORE, M.D., Brookline, Mass.: I should like to ask the opinion of those present concerning the Cresolene lamp?

H. P. SKILES, M.D., Chicago, Ill.: I have used the Cresolene lamp for some years, and, while I do not use it to the exclusion of the homœopathic remedy, I use it as a gas-house, by bringing the gas-house to the patient; I have as yet seen no harm from it. I look with alarm upon any case of whooping-cough in a child under six months of age. I have recorded one or two deaths from this disease in fourteen years.

C. A. WEIRICK, M.D., Chicago, Ill.: I would like to add to what Dr. Skiles has said my experience with Cresolene, because I have found it of assistance in the treatment of whooping-cough. There

is a bogus article on the market. I advised the use of this article in one case which was complicated with capillary bronchitis, hoping to help overcome the mechanical obstruction in the bronchi. The result was satisfactory indeed. The mother was so pleased with its action that, fearing to be without it before the child fully recovered, she purchased another bottle and began using it before the first was all gone. The child became worse at once; then she tried the first bottle again, with the same satisfactory result.

Jos. P. Cobb, M.D., Chicago, Ill.: I enjoyed the paper very much, and I liked the emphasis that the essayist placed on the complications. I call it one of the most serious of all childhood's ailments, and the most neglected, yet its cardiac, pleuritic and other complications make it one of the most difficult to treat. I should like to emphasize its tendency to develop tuberculosis, and think that many latent cases owe their development to pertussis. I should like to add my experience with Cresolene. I have used it in many cases, and in only comparatively few has it been of value; the others went on just the same as without it. I think it has been beneficial in some cases, and have seen no bad effects from its use. Just a word as to the character of children attacked by pertussis. There is no system of feeding, sanitation or hygiene which will protect them until you take them to a country where pertussis does not exist. I have observed this in my own experience. Many children who are properly fed and cared for will contract it. It is a peculiar disease, and does not show any disposition to attack weak children, but has as much affinity for the strong child; if a child is suffering from any catarrhal affection it is more liable to an attack, even when properly fed and cared for.

J. P. Rand, M.D., Worcester, Mass.: In giving an anæsthetic, where there is stertorous breathing, by putting the fingers behind the angle of the jaw and bringing it forward, the patient will breathe quietly. If you will take a child just as the paroxysm of whooping-cough is coming on and give him the same treatment, you will frequently shut off the whole paroxysm. I have taught the mothers to do this in a few instances, and have thereby saved many paroxysms of cough. After the paroxysm is developed you cannot stop it. The older children may be taught to do this for themselves in the same way, when they feel the cough coming on. I cannot now recollect just where I saw this treatment advised, but I have known it to work well in a few instances. I have never seen Cresolene do any good.

Mary Stevens, M.D., Detroit, Mich.: I have but recently been called to see the most serious case of pertussis I ever had, and it goes contrary to the general experience. The child is five years old, and carefully fed. So far its only illnesses have been one attack of bronchitis and another of tonsillitis; these may account for the severity of the present attack. The mother asked permission to use

the Cresolene lamp and was permitted, but it aggravated the case. In spite of all I can do, the paroxysms have become more and more violent, until there have been hæmorrhages into both eyes; the right is the worst, and there is a clot covering the lower portion of the cornea.

E. R. SNADER, M.D., Philadelphia, Pa.: I was pleased with the remarks of the doctor who commended me for laying particular stress upon the complications. I have always regarded pertussis as a serious disease, and one not to be trifled with. Bronchial complications occur in all instances, and frequently travel downward, even to the lung itself. If latent tuberculosis be present, it may develop pneumonia, any variety, as well as broncho-pneumonic phthisis may develop. In these cases, where they are complicated with severe capillary bronchitis, it is at times folly to waste time with ordinary medicines. In the case of capillary bronchitis, *obstruction* is written all over the patient. The obstruction is largely mechanical, and if you can bring the diaphragm to your aid by means of emetics, you will unload the burden, and give your little patient another fighting chance for his life. I have never used Cresolene, and know nothing of its value. Dr. Stevens need not worry over her case with conjunctival chemosis, as Hamamelis will probably relieve the trouble. I especially wished to impress upon you that whooping-cough is not a disease to be trifled with, but, with its complications, should be looked after carefully. Do not neglect these cases; you not only lose good patients, but bring the profession into disrepute. As to the Hutchinson treatment, it was quite popular with a number of physicians in Philadelphia. He gave a dose of Drosera, and two weeks later a dose of Carbo veg., and it was supposed to materially ameliorate the whole attack. At least two physicians to-day in Philadelphia are kept busy sending out Hutchinson's remedies by mail. Personally, I have never used them. It is suggested that Ambrosia 0 and Merc. cor. 2x in alternation may be used to good effect, and are highly recommended by Dr. Crumbaugh.

Chorea.

By C. A. Weirick, M.D., Chicago, Ill.

A disease characterized by irregular spasmodic movements of voluntary muscles. It develops most frequently in early life, 90 per cent. of cases beginning between the ages of five and twenty years, and 80 per cent. between five and fifteen years. As most cases occur between ten and fifteen years of age, the changes incident to puberty might be considered a factor in its development, but such is not thought to be the case. The disease has existed in infancy at birth, in case of a choreic mother, though it is rarely found under four years of age. A few cases are reported after the age of seventy-five. A majority found to have the disease after thirty years are not having primary, but recurring attacks. It is therefore usually developed in youth.

While chorea itself may not be hereditary, yet nearly half the cases have inherited a predisposition to nervous diseases. Children with precocious intellects, having great animation, restless dispositions and general susceptibility of the nervous system to be unduly excited, are predisposed to this disease. More than two-thirds of the cases occur in females.

Rheumatism at one time was supposed to be a common cause of chorea, but its production by this cause is now considered doubtful. While wet, changeable weather is a potent factor in the production of the former disease, the latter is very little influenced by temperature, moisture and barometric changes, although two observers report a greater number of cases occurring in months having the largest number of cloudy days. Mental strain, especially fright, anxiety, excitement and overstudy cause chorea.

The above are the usually accepted causes of chorea. But they are common in the ætiology of many affections. The inherited nervous conditions not only predispose to chorea, but to other diseases of the nervous system, which may cause functional and even organic changes in various organs. The age at which it is most frequently developed, the psychological conditions and even the sex, are all important influences exerted in producing many other diseases.

The following, I think, briefly explains why the same exciting causes produce chorea in one person and different diseases in others:

The predisposing causes of disease render some of the anatomical elements, tissues or organs of the body unable to sustain themselves while performing their normal functions, hence, without exciting causes disease may develop, though more slowly and later in life than when influenced by the latter class of causes. Then if the patient be predisposed to neurotic diseases, and if certain portions of the nerve centres be susceptible, probably some parts of the cortex of the brain, chorea will be developed. The exciting causes of disease may all be designated as abnormal stimuli of the reflex arc. If the stimuli be different in quality, though applied to the same afferent nerve fibre, phenomena of different diseases will be produced; if the power of the transferring centre be less than that of the transmitting fibres of the arc, then a neurotic disease of central origin will be developed from the same kind of stimulus that would produce a disease of an entirely different nature in the tissues supplied with the fibres of the arc; if the centre of the arc be perfect then abnormal stimulation will produce peripheral disorders.

The symptoms are familiar to all physicians of this Institute. At first there is noticeable not a lack of co-ordination, but an exaggerated motion of the one intended, with sometimes either a premature or delayed relaxation. The earliest symptoms are usually observed in the extremities. There is no regular interval between the movements, but they become more and more frequent, until, in very severe cases, they may be constant. When fully developed, voluntary and co-ordinate motion is impaired by involuntary twitching movement of sets or groups of muscles. The use of the arms is impaired; walking interfered with; momentary attacks of double vision, due to unequal spasms of the muscles of the eyeball; speech difficult, sometimes impossible; and in very severe cases the patients have been thrown from the bed, and the spasmodic movements have been so severe as to break the teeth. Because of the impossibility of continued muscular action, the patient cannot hold anything. The respiratory muscles may be involved, resulting not only in irregular breathing, but increased and irregular action of the heart. The position of the patient does not affect the pulse as much as in health. One or both sides may be affected, or it may go from one side to the other.

Chorea is a painless disease, the sensibility usually remaining

normal; when increased, there is, as a rule, some complication, often hysteria or rheumatism. Convulsions seldom take place in this disease, although they do occur. Maniacal chorea sometimes is a form developed in females, usually at puberty or during pregnancy. With this phase of the affection the choreic movements are decreased or entirely subside. This form of mania is self-limited, running its course in about two weeks, leaving the patient for a limited time dull and indifferent, with occasional hallucinations; exceptionally, however, the mind is permanently weakened, even when caused by pregnancy.

When uncomplicated there are usually no pathological changes discoverable by the naked eye in the nerve-centres, and in many cases not by the microscope. If the attack be severe there may be microscopical changes in the blood-vessels and in the nerve-cells; hyperæmia, plugging of small arteries, and when complicated with endocarditis, frequently extravasation of blood in brain and spinal cord.

Cardiac complications are often developed, especially endocarditis, in the severer attacks. Over 90 per cent. of fatal cases have structural changes of the heart. Endocarditis is found more frequently in secondary than in primary attacks.

In the urine there is an excess of urea, phosphates and oxalate of lime. By the alterations in the urine an effort has been made to show the relation between rheumatism and chorea. In these two diseases the pigment in the urine is the same, but different from that found in any other nervous disease.

Duration is very variable, usually from a few weeks to six months, although it has continued from childhood to old age. In a report of nearly 400 cases, 147 did not exceed one month, 57 per cent. lasted between one and three months and 6 per cent. exceeded three months. It is liable to recur, particularly in females, at an average interval of one year. If a period of two years elapse without an attack the danger of reappearing is usually overcome.

Prognosis.—The tendency is toward recovery of the attack with liability to recurrence and development of neurotic functional troubles. About 3 per cent. of cases not pregnant are fatal. In pregnancy it is very serious, the mortality being over 20 per cent.

Treatment.—The causes of functional nervous diseases are common to so many of them that it is impossible to consider the preventative treatment of chorea separately.

I believe that it is a functional trouble and that the pathological conditions found after death are due to complications. Autopsies

often reveal no pathological changes in the brain and spinal cord. Hence, because of the difficulty of thoroughly restoring the nervous system to the same degree of vitality as before the attack, the necessity of proper management of those children predisposed to derangements of the nervous system. Many attacks occur in children having very bright, active minds, which, because of the injudiciousness of parents and teachers, are given mental burdens entirely beyond their physical ability to endure, resulting in functional nervous diseases manifesting themselves by two opposite conditions, viz., either an over and irregular action, or an under or indolent action of the cerebro-spinal system. The former gives rise to the restless, spasmodic movements, including chorea of early life and the neuralgic and neurasthenic diseases of middle age, with the consciousness of a growing incapacity to perform the usual amount of mental work. The ineffectual effort to overcome this last greatly aggravates this existing trouble, increases the danger of complications, and, of course, lessens the chance of perfect recovery.

The second condition shows itself by a different class of symptoms, both, however, indicating a debilitated nervous system.

Not infrequently does the child of the family that promises most intellectually, turn out to be the dunce, because the pride of those having charge of him leads them to overburden the mind and ignore the physical development. In this downward course chorea is one of the many diseases produced.

As a prophylactic measure, therefore, a child's education should not be entrusted alone to parent and teacher, but also to competent medical supervision.

This is the era of the germ theory in medicine; it might be appropriately called the microscopical era in diagnosis. The present is also a period in which some neurotic diseases are very frequently found, and others are increasing, especially insanity, which has among its causes chorea. The bacteriologist, with the aid of the microscope, aided by municipalities and state, has discovered the germs peculiar to many diseases, and sanitary boards have promptly taken measures to prevent their spread, but these special guardians of public health have not yet given sufficient attention to the prevention of nervous diseases, the foundations of which are laid in youth.

The public schools afford a field for systematic investigation to determine what influence they exercise in producing impairment of the nervous system. From time to time a greater number of branches taught have been added to the curriculum and the stand-

ard of proficiency raised, while the time required to accomplish this added work has not been proportionately increased, if at all. Does this higher standard of education in childhood and youth result in a proportionately elevated standard in middle life without detriment to health? Is the mind as alert and vigorous then as it was before the increased burdens of youth were added? These questions can only be answered after the study of observations that have extended over many years, and which have been carefully made and recorded by medical doctors. Sanitary boards should examine the course of study in the public schools, and be vested with power to modify it in the interest of health.

Fright is given as the active cause of many cases of chorea, hence should be guarded against; and, of course, children should not be frightened for amusement. But in cases from this exciting cause there is a previously weakened nerve power, which probably determines the degree to which the same cause of fright may affect the organism. In one case it may be but a momentary feeling of fear, with slightly accelerated pulse; in another an involuntary stool, or an attack of chorea, or a tonic spasm, or death. Often fright develops chorea from what had been regarded a debilitated condition accompanied by nervousness or an occasional twitching of a muscle. The necessity, therefore, of carefully searching for and removing any cause of disease in a neurotic child comes within the prophylactic treatment of chorea.

The medical advice frequently given parents to do nothing, because a child will outgrow a disease or will be cured by the changes that take place at puberty, is wrong. It does not, as a rule, if followed, result in the cure of the patient at that age, but either causes an exaggeration of the existing disorder or the development of some other disease more difficult to cure. Chorea is one of these diseases more frequently developed at puberty that at any other age.

Every congenital malformation affects the nervous system of the individual either by reflex or by depressing mental influence. Peripheral, non-inflammatory irritations, whether of the cutaneous or mucous surfaces, may cause this disease. Preventative treatment requires their correction or removal whenever possible. The removal of ascaris lumbricoides from the intestinal tract has been promptly followed by a cessation of choreic symptoms.

At the first manifestation of the disease regular mental work should be discontinued, the child not allowed to attend school, and excitement avoided. The therapeutic measures employed have been many. Riggs has obtained marked benefit from the use of

electricity. He recommends the combined use of the constant current and static electricity. I have seen rapid improvement by the inhalation of oxygen nitrogen monoxide after other measures had been applied without apparent benefit. Drugs must be selected to fit the individual case.

Hyoscyamus, Belladonna, Gelsemium, Arsenicum, Cuprum, Agaricus and Ignatia are some of the frequently indicated remedies.

DISCUSSION.

E. R. SNADER, M.D., Philadelphia, Pa.: I have three pet remedies for chorea which I have not heard named, Actea, Arsenicum and Agaricus, important in the order as named. I have seen one case of chorea affecting the respiratory organs alone (an unusual case, truly) cured with Actea. Heart murmurs occurring in chorea are, according to some authorities, due to choreic actions in the papillary heart muscle; I have not had any evidence to confirm this view. Endocarditis actually occurs in many instances I am sure, but I do not believe there is any chorea in the muscle proper, save in anomalous instances. The connection between chorea and rheumatism has interested us for a long time, and now the relationship is found to be not so common. The spasms are intermittent, but the heart murmurs usually continue. I have listened for a half-hour at a time to the beats of some of these choreic cases with the idea of determining if possible whether the papillary muscles were affected by choreic movements, thus by distortion giving rise to murmurs at the valves and orifices. I proceeded with the rather natural assumption that a spasmodically-acting cause would produce variations in intensity and pitch in the murmurs. According to my best judgment most of the murmurs were the result of an actually existing endocarditis, a few to blood changes, and in only one or two did I have reason to entertain the idea of spasm of the papillary muscles.

H. P. SKILES, M.D., Chicago, Ill.: I am pleased with the suggestion thrown out as to the supervision of children suffering with nervous diseases; the point is well taken, is practicable and should be carried out. There is no question that these cases are too often kept from the care of the physician until they become violent. The child who is nervous at school is too often scolded by the teacher and chastised by the parents. The child should be under the care of a physician.

J. P. COBB, M.D., Chicago, Ill.: I think this paper a very valuable addition to the matter on this line; this suggestion should be acted upon. The subject is a neglected one. Differing from both Dr. Weirick and Dr. Snader, I think, with the statistics in mind, that the connection between rheumatism and chorea is as firmly established as ever. In 70 per cent. of the cases there is evidence to connect it with rheumatism in the parents; endocarditis or any arthri-

tic condition in children is evidence of their having acquired or inherited something of the rheumatic diathesis; endocarditis is as diagnostic of rheumatism in children as synovitis in adults. It is agreed, at least, that rheumatism is a frequent accompaniment of chorea. This is particularly true of cases before puberty. They are not so apt to be so in purely neurotic cases. I believe you find that Smith, who has had a wide experience, says that they occur together in 70 per cent. of all cases.

C. T. Hood, M.D., Chicago, Ill.: I am sorry I was not able to hear all of the paper. I have had a good deal of experience in chorea of children. For the last three years in our college clinic we have made careful notes of these cases. We have had from fifteen to twenty-five cases on hand all the time, and last year had 308 cases of chorea in children. I had prepared a paper on the general management of chorea for the meeting of last year. I believe a proper diagnosis essential to the successful treatment of this trouble. There are four forms. The first is the organic form, the result of trauma, or from minute emboli or softenings in the motor area, and many other causes. This is the true organic chorea. The three more important ones are: (1) Reflex chorea, coming from muscular insufficiency of the eye, from adenoid growths in the nose, enlarged tonsils, or from digestive or alimentary troubles, etc. These reflex choreas should not be taken out of school. The conditions should be removed. (2) Nutritive chorea, gives a history of malnutrition in early life; they are nervous, irritable, have had enuresis, and show various signs of chorea. They develop chorea on slight causes. Take them out of school. (3) The purely psychical chorea, arising from a fright, start on seeing another case of chorea. The nutritive cases should be taken out of school, put to bed and given good treatment. The psychical cases you may prescribe for for years, and do no good unless you give them something besides medicine. They should have treatment by suggestion as well.

C. A. Weirick, M.D., Chicago, Ill.: The opinion that rheumatism is a cause of chorea is not entertained so unanimously by physicians as it was a few years ago. Some very competent observers doubt its being an ætiological factor in the disease under discussion, but consider it as one of the frequent complications.

Another classification of the different forms of chorea is unnecessary; its tendency is to prevent individualization, which is so essential to successful Homœopathic treatment.

I do not agree with Dr. Hood in the statement made by him in the discussion, that cases of chorea produced by reflex influences should be sent to school. A sick child should never be sent to school. (Dr. Hood interrupted to say that the patient should not attend school until the irritation which produced the disease had been cured.) That alteration so changes the gentleman's original statement as to make it agree with the positive assertion made in the paper that no cases of chorea should attend school.

Hereditary Syphilis in Infants.

By Joseph Pettee Cobb, M.D., Chicago, Ill.

I do not propose to open the question of how the syphilitic virus is transmitted from parent to offspring, or of which parent, if either, has the greater responsibility in the matter. A brief *résumé* of its manifestations in infancy only is the scope of this article.

The more common form of tissue change which takes place in hereditary syphilis is a diffuse interstitial hyperplasia of the connective tissue; circumscribed gummata are much less common than in the acquired form.

The visceral organs liable to be affected, and in their ratio of frequency, are the spleen, pancreas, liver, lungs, testicles and kidneys. In the case of each organ, as stated above, the lesion is usually an interstitial hyperplasia of connective tissue, which increases the size and density of either the whole or some part of the organ; and which encroaches upon the essential cell structure of the organ, thus impairing its physiological capabilities. These lesions, when not too extensive, are often amenable to treatment.

The bone lesions are of two types, viz.: Osteochondritis and osteoperiostitis. Both lesions are more liable to involve the long bones: osteochondritis is a lesion belonging to early infantile manifestations, while osteoperiostitis is the form of lesion usually observed later on toward the period of puberty. Osteochondritis is peculiar to syphilis, and starts, as its name implies, at the zone of proliferation between the bone and epiphyseal cartilage. It may materially affect the growth of the bone; it is apt to be symmetrical. The number of bones involved appears to be in direct ratio to the virulence of infection, and the greater number of bones involved, the graver are the infant's prospects of life.

Besides these common types, dactylitis frequently occurs, when the fingers or toes may swell to twice their normal size, assuming a peculiar pyriform shape.

Upon the skin we have lesions of the type of erythema, maculæ, papules, vesicles and pustules. It is quite characteristic of syphilis to have a variety of skin lesions co-existing. Blebs appearing

either at birth, or in the first months of infancy, upon the palms of the hands or soles of the feet are characteristic lesions.

Catarrhal inflammations of some part of the mucous membrane of either the respiratory or alimentary tract, or both, are present. Mucous patches may be found in the mouth or pharynx, and fissures at some of the muco-cutaneous margins.

The nervous system is liable to suffer as a result of hereditary syphilis. The lesions of these tissues may appear in infancy, childhood or in adolescence; they correspond to the tertiary stage of the acquired disease, but are often the first or only manifestations of the inheritance.

Intracranial syphilis may appear as a diffuse meningitis, as localized gummata or as endarteritis. It is characteristic of any of these forms of lesions to develop slowly and to be accompanied by little or no fever. The meningitis may evidence itself for several weeks only by more or less constant headache in various parts of the head. Later paralysis of some intracranial nerve may appear, with evidences of a severe intracranial affection.

The symptoms produced by syphilitic gummata do not differ from those produced by any localized tumor, and their recognition as such must depend upon the presence of other syphilitic manifestations. Endarteritis is especially liable to affect the arteries at the base of the brain. It may lead to local dilatation, with a thinning of the arterial wall, and result in a hæmorrhage. There may be produced an occlusion, which cuts off the blood supply, and results in more or less softening and disintegration of cerebral tissue. The symptoms will, of course, vary in accordance with the part of the brain affected. The most common are the various forms of paralysis of the extremities and sensory disturbances. Any of these forms of the disease are more liable to yield to treatment than are similar conditions not depending upon syphilis. Syphilis of the spinal cord may present itself as an obliterative endarteritis or as a general arteritis; it may or may not be associated with the same condition in the cranium. More often syphilis of the cord is associated with a subacute or chronic meningitis or meningo-myelitis. The important features to bear in mind in either of these forms of the disease are:

1. The unusual distribution of the disease over the greater part of the cord.

2. The slight intensity of the affection at any one level, as compared with the extensive areas involved.

3. The rapid improvement of some symptoms and the persistency of others.

4. The frequent history of other manifestations of the disease elsewhere.

5. The fact that they have a tendency to improvement, and an equal tendency to relapses.

Clinical History.—Under the influence of the syphilitic poison the fœtus often ceases to grow, dies and is expelled long before time. It may be born prematurely, and show marked indications of the disease when it comes into the world, or it may be born at term, but dead. About 70 per cent. of still-births are due to syphilis. In such cases the fœtus is usually macerated and may show bullæ. The clinical course of the disease presents itself in two rather pronounced types: The early, occurring in infancy, and the late type: as observed toward puberty.

The early symptoms correspond to the secondary stage of acquired syphilis. In the severer types, the infant shows at birth or within a few weeks after birth, an efflorescence of the skin; this efflorescence has a predilection for the nates, the parts around the genitalia, the palms and the soles. A simple erythema represents a mild form of the disease, while papules and pustules each indicate a severer type of infection. Blebs are found only in pronounced cases, and when occurring on the palms and soles are very characteristic.

Together with the efflorescence there is present, or early develops, a persistent excoriating coryza; complete occlusion of the nares may occur. The cry is hoarse, weak and often only a plaintive whimper. The child is small, poorly developed; there is an absence of any subcutaneous fat; the skin is dry and hangs in folds; the face has an old, anxious expression. Syphilitic infants rarely look happy, never smile and are very fretful. Persistent fretfulness and crying at night are in themselves always suggestive of hereditary syphilis.

These children always manifest evidences of indigestion. Dyspeptic diarrhœa, with foul-smelling excreta, containing mucus and undigested food, is the usual accompaniment of the disease. All of the excreta, including the perspiration and breath, are foul-smelling, and a peculiar, penetrating odor clings to the child even after its bath. These digestive symptoms are in part due to catarrhal inflammations of the stomach and intestines, and in part to the lesions of the digestive glands, the liver, spleen and pancreas.

Syphilitic lesions of the mouth in early infancy consist of mucous ulcerations on the cheeks, tongue and lips; they are more or less painful and sluggish in repair; those involving the lips are apt to select the commissures of the mouth and produce deep fissures with indurated bases; these are known as rhagades. As a result in part of the impaired digestion, we may have various forms of stomatitis engrafted upon these mucous sores, which do not represent purely syphilitic lesions.

These children usually show osteochondritis of some of the long bones; so commonly is this the case that some authors claim that the diagnosis of this early type is not made until it is found. Children are frequently born apparently healthy, showing no evidence of impaired nutrition or other lesions until some months after birth, when characteristic syphilitic lesions make their appearance. It is claimed that the virus may remain latent until the sixth month but certainly in the great majority of cases it develops before the close of the third month of infancy. The symptoms do not differ from those which we have described as appearing immediately after birth, and may go on to the same fearful extent. As a general rule, the later the symptoms begin to appear and the slower they develop, the more amenable to treatment are they and the less severe they become.

All cases do not show the typical lesions of the disease, and in mild cases there may be a doubt as to their character. A persistent, acrid coryza, even without mucous ulceration; persistent, dyspeptic, foul-smelling diarrhœa, with emaciation; an old expression, with wrinkled, anxious face; persistent fretfulness, with insomnia, are all classical symptoms; if any of these conditions are present, together with an enlarged liver and spleen, there can be little doubt of their significance: when osteochondritis is found all doubts are removed.

A large proportion of syphilitic children die, but many who present very grave lesions and who develop the lesions early in infancy do not succumb to the disease. The most important point in their care is to maintain their general nutrition. This is not always easy to do. The mother often does not have sufficient breast milk to satisfy their wants, and when the mother herself has been a sufferer from the disease her milk is very frequently an insufficient food. Artificial foods are often prepared with no appreciation either of the child's wants or of its feeble digestive powers. The more an infant's digestion is impaired the harder it becomes for him to digest

casein; fat and sugar are what they need, and cream and sugar of milk are what they can digest with the least effort. I have found a simple cream mixture which does not contain more than 1 per cent. of casein, 4 per cent. of fat and 7 per cent. of sugar of milk the best food for them and the most likely to be well digested. Where a milk laboratory can be called upon for aid, there is no trouble in obtaining the desired proportions. Where fresh cows' milk can be obtained, with a little intelligent assistance, we can make a good substitute milk. Good cream contains from 16 to 20 per cent. of fat and 1 to 4 per cent. of proteids; diluted with five or six parts of water to one part of cream, it will give a fair proportion of fat; sugar of milk should be added in the proportion of 3ß drachms to every 8 ounces of the mixture.

Much discussion has taken place as to the relationship between rachitis and syphilis, and between tuberculosis and syphilis. Rachitis is essentially a disease of malnutrition, and anything which so profoundly affects the nutrition as syphilis can undoubtedly influence its development. The characteristic born lesions are entirely different, and it is not an unusual thing to find both lesions existing in the same case. A syphilitic parentage, where the active evidences of the disease have been overcome, may transmit a weakened constitution, which less easily withstands the deprivation and unhygienic surroundings which are the progenitors of rachitis.

Tuberculosis, like syphilis, is a disease of civilization, and some researches which have of late been made seem to show that tuberculosis follows syphilis; that not until syphilis has weakened the natural resiliency of a race are they liable to tuberculosis. In the individual case we know that an organism which has suffered the ravages of syphilis, either acquired or hereditary, offers a suitable soil for the development of the tubercular bacilli.

The medicinal treatment of hereditary syphilis is as varied as the manifestations of the disease. I am not one of those who find in Mercurius the sole or even the most frequently indicated remedy. Mercurius does not cover all of the symptoms of secondary syphilis, and almost none of those of the tertiary stage; hereditary syphilis presents conditions and symptoms corresponding to the second and third stages of the acquired disease. Mucous ulcerations, characterized by extensive inflammation and swelling, will demand Mercurius, also some forms of dyspeptic disorders and bone lesions, with nightly aggravations.

The catarrhal inflammations are more apt to demand some of the

various Kali preparations. Hereditary syphilitic symptoms, like the Kali pathogeneses, are characterized by the absence of or low grade of fever. Kreosotum will often control the foul-smelling diarrhœas, and rob the child of its usual, peculiar, penetrating odor. It is also of service in controlling dental caries and in healing the cracks and fissures at the commissures of the mouth.

The Iodide of potash is a valuable remedy with which to arrest the progress of lesions of the glandular, the nervous and the osseous systems, but it can frequently be well followed or replaced by the Iodide of calcarea or the Iodide of arsenicum in lesions of the glands; by Silicea, or Zincum or Sulphur, in those of the nervous system, and by Hepar. sulph., Aurum or Nitric acid, in those of the osseous system.

Mezereum, Thuja or Sulphur are remedies frequently required to clear up the various skin manifestations.

Strictly Homœopathic medication will yield the best results in the treatment of hereditary syphilis, and we do not need very often to resort to so-called antidotal treatment.

Discussion.

E. R. Snader, M.D., Philadelphia, Pa.: I cannot agree entirely with the author of the paper concerning the relationship sustained by syphilis to infantile disorders. Unquestionably, by lowering vitality specific disease favors maladies of the most diverse sort, but acute specific disease, primary and secondary, apparently bears a very different relationship towards subacute phthisis, tuberculosis or broncho-pneumonia. For instance, I have known of cases of advanced phthisis pulmonalis, who contracted syphilis, and the symptoms of pulmonary mischief very shortly became latent. The improvement in the lung symptoms was so marked, so sudden, as to be striking, and the inference was more than an assumption that the new disease was antagonistic to the respiratory affection. In some of these cases, after the syphilitic phenomena were fairly under control, phthisical processes made extremely rapid downward progress. Recent literature, however, seems to indicate that the latency of the consumptive process is permanent in some few instances. I cannot confirm or deny this possibility from my own personal experience, because I have lost sight of some of the patients afflicted with both diseases who were for a short time under my observation. I want to utter one word of warning: Where you suspect a case of lung disease to be specific, be certain of the diagnosis before putting them on Kali iodide, for the non-specific cases will go right down hill with greater rapidity than ordinarily under the specific treatment. In other words, the Potassium iodide is a good medicine for specific lung disease, but in other forms is positively injurious.

WILLIAM E. LEONARD, M.D., Minneapolis, Minn.: The paper is so exhaustive that there is little to be said. I have found a great deal of good and permanent benefit from baths of Corrosive sublimate. Those patients with stomachs out of order are not good subjects for medicine. It is perfectly wonderful sometimes to see how these cases, particularly those where skin symptoms predominate, will improve under a course of baths in weak solution of Corrosive sublimate. I use about one-fourth of a tablet to a tub of water. In these cases, where there is a nursing child, it should be weaned. The mother is weak and a syphilitic, and the drain is great. Now that we have sterilized milk and modified milk, which closely simulates mother's milk, the child should be weaned early.

Eczema.

By A. M. Linn, M.D., Des Moines, Ia.

Eczema is classified under the vesicular form of eruptive diseases, and is either acute or chronic. It is a non-contagious, inflammatory disease of the skin, very common, and exceedingly variable in character, and constitutes rather more than one-third of all skin diseases. It may appear at first as an erythema, a vesicular, papular or pustular eruption, or several of these forms combined, and is attended with infiltration, exudation, and accompanied by redness and itching.

The disease is not heralded by noticeable systemic disturbance. The patient may note only the erythematous blush or slight burning, or see numbers of vesicles closely crowded upon a limited surface. These, when ruptured, exude the characteristic, sticky, honey-like serum, which dries into crusts and scales. When the scales are exfoliated they leave a reddened, irritated surface, upon which they are speedily reproduced by the exudate.

Jackson names the following series of symptoms characteristic of eczema, three or more of which will be found present in every case, viz., redness, itching, infiltration, tendency to moisture, crusting or scaling, and cracking of the skin. These are landmarks which serve to guide us with reasonable safety in pronouncing a diagnosis.

Eczema may affect all parts of the body, and presents itself in varying forms and types. According to location it is named eczema capitis when developed upon the head, eczema manuum when located upon the hands, eczema faciei when located upon the face, etc. And again, according to type, it is named eczema simplex, eczema rubrum, eczema pustulosum, etc.

The affection usually forms patches, which shade off into the healthy tissue. The patches may be small, or nearly the entire surface of the body may be affected. From a mere point the disease spreads with more or less rapidity. It may involve a small or large surface, may remain stationary or tend to recovery, or may develop into the chronic form.

Children are particularly liable to eczema. It is one of the tor-

tures of childhood. Out of 5000 cases tabulated by White, the ratio under 10 years of age is as follows:

	Cases.
Within the first year of life,	569
Between 1 and 2 years of age,	286
Between 2 and 3 years of age,	280
Between 3 and 4 years of age,	198
Between 4 and 5 years of age,	144
Between 5 and 6 years of age,	118
Between 6 and 7 years of age,	93
Between 7 and 8 years of age,	76
Between 8 and 9 years of age,	66
Between 9 and 10 years of age,	60

The statistics tabulated by Bulkley do not vary largely from the above, and both prove conclusively the susceptibility of children to this affection. It is therefore a pertinent inquiry, Why the liability of the young to eczema? The thought naturally suggested is that diathesis must be an important factor in its production. Outside of the French school, however, little consideration is accorded diathesis, nor can it be asserted with any assurance that dyscrasia is an important factor in its production.

Eczema affects every grade and rank of life alike, entering with equal readiness into the hovel and the palace. The ill-conditioned and the well-nourished are apparently alike susceptible. Authors assign as causes depraved conditions, constitutional dyscrasias, irritation of trophic nerves, filth, dentition, unsuitable food, irritating clothing, etc.

That which depresses the vitality and renders it incapable of resisting the onslaught of disease predisposes to eczema. Among such causes may be enumerated digestive ailments, whether of the stomach or in the nature of an intestinal irritation, or any derangements of assimilation; also disorders of the liver and kidneys.

As an impoverished condition of the blood predisposes to this affection, such conditions as chlorosis and anæmia become causative factors. Also among reflexes such as nerve irritation, derangements of the trophic nerves, vascular disturbances, the derangements of teething are all recognized as exciting causes. An analysis of these symptoms will give us some knowledge of the ætiology of the diseases.

Nervous symptoms are prominent in childhood. The development period in childhood is most susceptible to eczema. During

this period rapid changes are occurring in the nervous system and in nutrition. The fact that eczema is sometimes relieved when nerve irritation is removed indicates that this, at least, is a factor in its production.

The apparently healthy child in his luxurious home has the ill-appearing eruption as well as the little waif in the alley. If coarse, rough clothing produces the disease in the case of the latter, as is argued plausibly, it certainly cannot be a factor in the former case, where the child is wrapped in softest wool. If bad food causes the trouble in the little Arab of the alley, where nourishing food is a rare article, it certainly is not the cause in the case of little Crœsus, where both the nurse and the doctor scrutinize with scientific care every morsel of his sterilized food. If neglect and filth produce the disease in the neglected waif, which indeed cannot be denied, how do they enter as active factors where the atoms of dirt are religiously excluded in the case of the other. If cold and exposure, as alleged, are productive factors in the case of the alley waif, and it is impossible to prove the contrary, how can they be exciting causes in the instances where little Crœsus revels perennially in tropical warmth? Atmospheric changes which chill the little Arab aggravate his eczema, but the pampered child of luxury in the palace, although he does not feel the chill, is worse also. Taking the average of cases, the chances are that the little alley waif will have a profusely fluent catarrh, and that little Crœsus will scratch with eczema. The one has catarrh of the skin and the other of the mucous membrane.

Although eczema constitutes rather more than one-third of all skin affections, and manifests itself in multiple forms and phases, it has as yet proven a hopeless task to try to divide it. Like the primary elements in chemistry it is incapable of division. The types are defined, and vary considerably in character, but they all marshal under the general term eczema.

This is pre-eminently the day in which the disease germ flourishes, and no affection is regarded as so unimportant but an effort is made to discover its specific bacillus. Some theorists, Una among others, have asserted that eczema is due to a specific germ.

The truth of the assertion is as yet not demonstrated. It is well to study the effects of eczema upon different temperaments. The average observer has noticed that in scrofulous individuals there is a tendency toward the pustular type, and usually a free formation of pus in chronic cases. This fact is amply verified in the profuse muco-purulent secretion in cases of eczema capitis and faciei in

scrofulous children. In the nervo-bilious patients, the subject becomes irritable, and in rheumatic and gouty subjects there is a tendency toward inflammatory action. We are indebted to Kippax for a demarcation of the stages of eczema. The first, or stage of invasion, is marked by a redness, infiltration, and the formation of vesicles; the second stage is characterized by the escape of the characteristic, sticky, honey-like exudate from the denuded surface, and the formation of scabs and crusts; the third, or chronic stage, is marked by cracks and fissures, and dry flakes and scales. The division is not altogether fanciful.

Acute eczema has distinctly marked symptoms. The stage of congestion is followed by inflammation, redness, and exudation, and accompanied by itching, burning and smarting. There is swelling and consequent hardening of the skin, with functional disorder. Little systemic disturbance is manifest, or, at most, restlessness and moderate febrile movement. Soon the exuded serum from the cutaneous vessels lifts the corneal layer at numerous points, and the little vesicles appear over the site of the inflammation. Instead of vesicles, papules of pustules may appear, or, if the effusion be profuse, the epithelial layer may be raised, leaving the denuded corion exposed and weeping.

In children of all ages, the itching provokes vigorous scratching, which ruptures the vesicles. The effused serum is thick and honey-like, often irritating the adjacent parts, and staining and stiffening the linen. Whether the vesicles be broken or left intact, the contents dry, forming thick, brownish or greenish scabs. Time and the disposition to remain constitute the dividing line between the acute and chronic forms of eczema.

The acute gradually merges into the chronic case without marked variation of symptoms. It simply gets neither better nor worse, and thus indicates that it has come to stay. In the chronic case there is usually more swelling and hardness of the skin, ane the surface frequently becomes fissured. The burning and itching are severe, and are a source of ceaseless annoyance to the little patients. The papules, vesicles, and pustules continue to pour forth their exudate and form thick, heavy crusts. The site of chronic eczema is usually the head, the flexor surfaces of the joints, the genitalia and parts most richly endowed with sweat glands.

When the inflammation is located upon the scalp, it constitutes eczema capitis. The effused serum mingles with the dirt and hair, sometimes covering a large part of the head, and forms into dense,

heavy crusts, popularly called scald-head. In neglected cases, the crusts may become from one to two lines in thickness, and form a most offensive, loathsome spectacle.

The definition of eczema affords the reader a generous hint as to its pathology. It is a catarrhal inflammation of the skin, and is analogous to the similar affection of the mucous membrane. The inflammation, even when long continued, is superficial, and involves only the papillary layer of the skin and those above it. Even when chronic, it does not tend to destroy or permanently injure the deeper layers of the cutis. Quoting from Kippax, page 92: "Eczema is due to faulty innervation, by which cell proliferation and capillary congestion, with their consequences, are produced. The papillary layer is its principal seat and the *modus operandi* of its development is as follows: An exudation of serum takes place from the congested vessels which floats the over supply of new cells, and the two push on to the rete from the papillary layer, separate the cell elements of the stratum Malpighii and stratum lucidum, and uplift the cuticle so as to form first papules, and then vesicles."

An erythema only becomes an eczema when it is succeeded by sufficient exudation and scaling to distinguish it as such, and shows a decided tendency to recur. It is more a difference in degree than in the character of the affection. The initial symptom is a reddened patch of varied size, marked by some itching, burning and tingling, and fading imperceptibly into the surrounding healthy tissue. According to the violence of the attack, the discoloration will be faint or distinct, and the accompanying symptoms will be mild or severe. The color may be uniformly pinkish, or become red or yellowish. The surface gives a distinct sense of hardness and roughness to the touch.

This form is usually circumscribed in extent, manifests a decided tendency to recur and is most frequently located upon the face and neck. After frequent recurrences, it inclines to remain in the chronic form.

Eczema papulosum, as indicated from the name, is characterized by the development of papules in predominance, although vesicles and pustules may obtain also. The papules are thickly studded over the surface affected, and vary in size from a point to a mustard seed. In color they vary from light to dark red, and are either discrete or coalescent. The papules are sometimes surmounted by minute vesicles. The patches vary in size and form. It chiefly affects the extremities, and is not common to the period of childhood.

In eczema vasculosum, the vesicle is apparent immediately upon the onset of the disease. If the attack develops abruptly, it may be accompanied with marked fever, thirst, restlessness, headache and derangement of the bowels. There is distinct sense of heat and burning at the point of eruption. Its appearance preceding the development of the eruption is usually red, but may vary through many shades, from pale to deep red. Over this discolored surface, minute, thickly-crowded vesicles appear. They coalesce, rupture and discharge a clear, sticky, honey-like serum, which develops into greenish crusts. When the crusts are removed, a raw, weeping surface is exposed. In the process of repair, the exudation ceases, the crusts which are formed gradually become thinner, and when they are exfoliated they reveal a hyperæmic surface beneath. As improvement goes on, the skin gradually assumes a healthy hue. This is the most common form of eczema, and in its range is likely to cover considerable areas on any part of the body.

Eczema pustulosum affects the scrofulous, debilitated and cachectic individuals, and is the most frequent type occurring in children. Its favorite location is on the face and scalp and behind the ears.

Its development may be either from vesicles or pustules, which usually occur densely crowded upon the affected surface. They rupture and pour forth their secretion, which dries into thick, greenish crusts. The itching may be mild or severe. When the sensitive surface is scratched it readily bleeds, and the blood mingling with the discharge makes the crusts dark or black in color. When the crusts are removed an irritated, moist surface is revealed bathed in pus. The discharge is often ichorous, and injures the healthy tissue with which it comes in contact. In obstinate and neglected cases, the dirt and hair mingle with the excretion, and form a dense mat, which is both loathsome and offensive. Eczema pustulosum is an obstinate form of this disease, and shows some systemic involvement in the swelling of the adjacent, lymphatic glands. Likewise, the progress toward recovery is slow, and relapses are prone to recur. In the progress toward recovery, the profuse secretion gradually subsides, the scales and crusts are less rapidly formed, the succeeding crop becoming thinner. The attendant swelling gradually disappears, and after considerable time the skin assumes its normal hue.

Eczema squamosum is but the vanishing stage of most types of this disease. It is characterized by the exfoliation of flakes and scales of the epidermis. The exfoliation is distinctly visible in the erythematous form, and obtains during the chronic stage of all the

other varieties. There is persistent infiltration and tumefaction of the skin.

The latter is somewhat firm and inelastic, and is liable to crack and fissure, particularly when about the flexures of the joints. The return to health is somewhat tedious, and injuries to the skin are likely to provoke a recurrence. Beneath the flakes the surface is dry and hyperæmic. The corneal layer of the cutis is "imperfectly reproduced, and is exfoliated again and again." When the disease covers large surfaces, considerable quantities of these scales are cast off. This condition obtains less frequently in children than in adult age.

Other diseases may be coincident with eczema, and will need to be differentiated. It is particularly important that an accurate distinction be made between eczema and the syphilides. Bearing in mind the landmarks as indicated by Jackson, the diagnosis is comparatively easy. In acute eczema an early recovery may be safely promised. The chronic form may persist for years in spite of the best treatment. In this form it is very intractable. Burnett does not promise his patients a cure under twelve months. Continued relapses under the best treatment is unfortunately the rule. In general, it may be said, that cleanliness is of prime importance in the treatment of eczema. Dirt and filth stand obstinately in the way of a cure. Topical applications of olive oil, lanoline and vaseline, etc., may be used to soften the crusts and facilitate their removal. They also serve the excellent purpose of excluding the air and allaying the itching. Care should also be exercised to prevent injury to the abraded surfaces. Astringent ointments are of very doubtful utility, and their use is attended with some danger. I will content myself with naming the following remedies for your study in the treatment of eczema: Arsenicum, Ammonium carb., Calcarea carb., Antimonium crud., Clematic, Calcium sulphide, Dulcamara, Graphites, Hepar sulphur, Lycopodium, Mercurius, Mezereum, Nat. mur., Petroleum, Psorinum, Rhus tox., Staphysagria, Skookum chuck, Tartar emetic, Thuja, Viola tricolor.

Discussion.

W. H. Hanchett, M.D., Omaha, Neb.: The doctor has given us one of the most clean-cut papers of the Bureau, and he deserves our thanks. If there is a disease which taxes the patience of both physician and patient, it is eczema. While lacking the dangers of whooping-cough, it is one of the most tedious diseases we meet in practice. In a child 3 or 4 months of age, whether you are a Hah-

nemannian Homœopath or not, you may be sure you have a case which will last from six to eighteen months. I have failed in many instances, notwithstanding the most careful prescribing; they have lingered along for may be a year, and not recovered until they had finished teething. I have had these cases leave me and go to some of my Hahnemannian brethren, who thought they could prescribe better than I, but they did not get well until after they had finished teething. It is one of the best papers of the Bureau.

J. H. MOORE, M.D., Brookline, Mass.: We should pay attention to the alimentary tract in this disease. I think it is sometimes due to incorrect diet, particularly in bottle-fed babies. It has been my experience that, where the indicated remedy and local applications have failed, a correction of the diet would wind up the case. There is sometimes too much albumen in the child's diet; sometimes the mother's milk is too heavy for the child. Poland water is sometimes beneficial; it flushes the skin and intestines.

H. W. CHAMPLIN, M.D., Towanda, Pa.: The last speaker has mentioned some obstacles in the way of the indicated remedy in the treatment of this disease. One other trouble is the daily scrubbing which is given the child. I often have the nurse give only one bath a week. I have had obstinate cases where progress seemed retarded by the free use of soap and water. I called on one case when the baby was getting its bath, and the mother told me that a delicate skin formed over the raw surface, but it washed off. The baths were stopped until the baby very promptly recovered. Soap and water are here in the way of the indicated remedy, but the remedy is all-sufficient where diet and hygiene are favorable. I desire to say a good word for Calcarea carb. in these cases.

C. F. MENNINGER, M.D., Topeka, Kan.: I did not know that it was necessary or advisable to run away from soap and water, and I do not believe a person ever had eczema from its use. There must be a constitutional disorder if it develops into an eczema. I can imagine how a person might be so vigorously scrubbed that the skin would be abraded and a local inflammation ensue, but that it should develop into eczema I cannot understand unless there was a constitutional dyscrasia behind it. As to the indicated remedy, we experience much difficulty in these cases, generally from the apparent lack of symptoms. If we will take the schema by which Hering taught at Allentown, and with it examine the little patient carefully, we shall find that, as far as sensations go, we shall get but little assistance. It is the same as to location, although not to the same degree. But we still have two important points upon which to select the remedy—the aggravations and ameliorations and the concomitants. I wish to warn you against drugging the case into an aggravation; it is often done, and the case drags and drags along. Administer the indicated remedy in the minimum dose until you

obtain relief; then stop, and do not repeat as long as the patient improves. Let well enough alone, and you will be rewarded.

M. J. CHAPMAN, M.D., Pittsburg, Pa.: The subject of eczema is one we should all study, for it is something we all meet; in the earlier days I had the pleasure of presenting two or three papers to the Institute along this line. I wish to refer to the importance of the constitutional treatment and the avoidance of local applications. I think the doctor who spoke of soap and water did not mean that it caused eczema, but merely that it sometimes aggravated it. In many cases soap and water are poison to the skin; if you will use warm Olive oil instead you may start a cure. But, as has been said, they will hang on, and for months. This condition needs supervision and treatment for years. The eczema will not always exist, but the constitutional disorder behind and back of it may require careful treatment for many years. I have had some sad cases where the skin symptoms had been suppressed, and we had serious trouble with brain, stomach and bowels. I am treating a case now in a family where I formerly objected to the mother giving soothing syrup. She thought I was too dictatorial, and, as I would not yield, they got another physician. In a few months there was another baby and that received soothing syrup, and when an eczema appeared it received Cuticura and Tar ointment until it was cured (?). About January 1st I was again called. When I arrived the child lay on the lounge, making no effort to move; absolutely helpless, although it looked bright enough. It has no apparent strength, although 4 years old now. I investigated, and, thinking it had been brought about by the use of strong medicines, felt quite independent. I told them that I did not know what I could do, but if they would enter into bonds to administer nothing personally but what I gave, I might take the case and they might possibly see some improvement in course of two years. I saw the case a few days ago, now under my treatment for some time. She is lively, but does not attempt to stand or walk. She will cross the room by rolling over, as fast as any child, but, while she kicks with good force while lying on her back, makes no attempt to walk. I knew of one case where Tar ointment was used; it cleaned off the eczema, but within ten days the child was dead. In another case I was much affected, as the child was a relative. It was a beautiful boy of 8 months, but afflicted with eczema. The mother was not satisfied to wait, but, after the child had a few prescriptions and the head still remained an unpleasant sight, she gave it some medicine which cured the eczema in a week, but in another week the child was laid away. I have seen this repeatedly, and have learned from experience that strong medicines will cure the disease and kill the patient. Look up Sulphur, Psorinum, Calcarea, Graphites, Petroleum and others, you know as well as I, give the remedy and wait. Also look after diet, sanitation, reflex neuroses and disturbances. If you know there is a fissure or an ulcer in the rectum, remove it, for eczema is liable to stay uncured while they are there. There is so much de-

pending upon the constitutional treatment that it must not be overlooked; the eruption may disappear, but it may also reappear. The child is healthier while it is in sight and the recovery may not take place until after dentition. The child is apt to suffer an aggravation with the cutting of each tooth.

A. M. LINN, M.D., Des Moines, Ia.: Such an authority as Burnett says he does not promise a cure under one year; we must remember that we cannot cure eczema by force. If there is a disease of the skin which calls particularly for the high potency, it is eczema. My best results have come from the high potencies; the lower appear to be too near the crude. The ill effects of local applications are very frequently too apparent to be mistaken, and I wish to reinforce the ideas and experience of Dr. Chapman as regards washes and lotions.

Marasmus—Malnutrition.

By William E. Leonard, M.D., Minneapolis, Minn.

I have purposely chosen this unscientific heading as including those causes that lead to wasting in infancy, hoping thereby to do something toward lessening the carelessness of those who still give "marasmus" as the cause of death. In every city and health office in this country each year, death certificates with this cause are to be found, which to the thinking practitioner mean no more than does "heart failure" as accounting for the decease of an adult.

No careful physician will be satisfied with such a diagnosis.

The following include all, or nearly all, of the conditions leading up to wasting, given as far as possible in the order of their frequency. The paper is intended to be simply ætiological and suggestive of, rather than dwelling upon, the treatment of these conditions.

I.—*Inanition—Starvation.*—This cause for simple general atrophy, or wasting in infants, is the most common, according to statistics. But it must be remembered that statistics, especially the English, all have been compiled from the great cities and institutions where large numbers of children from the poorest classes are congregated, and that in private practice cases of that kind should not be frequent. Nor is such a diagnosis to be made without the careful exclusion of all other causes to be hereinafter mentioned.

A child born of healthy parents and nursed by its mother from birth does not readily take on this condition. But when, as often happens, the mother either has no milk or will not be troubled by nursing the infant, or her milk is of inferior quality from her being under-fed or diseased, artificial food becomes a necessity, and by its improper use foundation may be laid for literal starvation of the infant. No hard and fast rule can be laid down for the government of American women whose first babies seemed to starve on the mother's milk, for the second may find plenty of good milk. Nursing is always the desirable thing if it can be brought about. If there is only a partial supply, it is better to supplement that with an artificial food than to wean the child—a rule I have only of late years learned to respect, having always dreaded giving two foods at the same time. Of course, syphilis and tuberculosis in the mother call for weaning at once. If by analysis the mother's milk is found

lacking in certain constituents, no fixed diet, however well and carefully prepared, will correct it. Be it known, also, that chemical analysis often fails to show why the milk does not agree. If, then, a brief trial of some such true galactagogue as Puls. or Phytol. in Homœopathic potency fails to change, weaning should promptly follow. In practice among the poor of great cities it is very possible for the milk or other food to be entirely insufficient from its dilution, but more often it causes wasting and starvation, because it is not properly cooked or predigested, and is therefore absolutely unassimilable.

But occasionally the child of a well-to-do parent is ignorantly or carelessly fed, and thus brought into a marasmic state. The matter of infant diet is ably treated by another member of this section, and will not be further entered into here.

The physician is not always as quick as he might be to detect the early symptoms of inanition. Fretfulness and loss of weight are the chief symptoms. The normal increase of one-third in the first month, one-half in six months and treble in a year, is entirely wanting, and its absence is shown in the peaked and anxious look, a depressed anterior fontanelle, constant crying and sucking its fingers and anything within reach, and a dry, wrinkled skin. The end may creep on gradually without any further symptoms than these, but more often the progressive anæmia is accompanied by indigestion, vomiting and diarrhœa. The tongue is furred, vomiting occurs after each meal, the ejecta being sour and containing much mucus, and there is evidence in the face of abdominal pain, with distension and tenderness. The appetite may fail altogether, with a subnormal temperature and the appearance of thrush, or the hunger will be ravenous, with apparent relief of the fermentation and flatus from the undigested food by frequent feeding. In such cases the wiseacre old woman commonly appears, and boldly states: "That child is starving, and must be fed more frequently," even to one half-hourly, as I have known to be done to a dying child.

If the mistaken food be too starchy, obstinate constipation instead of diarrhœa will be present.

The prognosis of such cases is generally hopeful, if vomiting and diarrhœa have not gone on too long, for resting the stomach upon water for a day or two, or giving only diluted milk or the white of eggs in water will start anew the machinery of assimilation with successful results. Change of environment, *i.e.*, better sunlight and air, are always essential in the treatment of such cases among the very poor, and hence the hospital is often their salvation.

II.—*Tuberculosis.*—Since the discovery of Koch's bacillus this disease has been known as specific and infectious, characterized by the presence of miliary nodules or more or less aggregated masses of so-called "tubercle" and containing the bacillus. Yet without an absolute histological test it is also true that the bacillus may be absent in cases offering undoubted clinical and anatomical evidence of tuberculosis. Bearing in mind this bacteriological weakness of evidence in all instances, it should be remembered that wasting is very often due to this disease in young children.

In the recent study of statistics the fact is also made clear that tuberculosis is not necessarily an inherited condition. In an analysis of English hospital records by Dr. Sturgess, quoted in *Donkin Med. Diseases of Children*, p. 145, of 204 tuberculosis deaths, 107 showed trustworthy family records of health, 44 had one phthisical parent and 1 only both phthisical parents.

It follows then that the tuberculous bacillus of Koch gains free entrance into the systems of children without parental or inherited influence. Such ways are thus far proven to be (1) the milk, which should therefore always be sterilized; (2) infection by phthisical sputa, and (3) general unhygienic surroundings. Probably certain diseases in some way bring out the latent tendency towards or actually prepare the soil for tuberculosis, such as measles, whooping-cough—undoubted instances of which I have observed—bronchopneumonia, enteric fever and epidemic influenza or la grippe.

Having in mind these possible modes of infection, the following train of insidious symptoms should lead one to prophesy tuberculosis: loss of appetite, wasting, anæmia, some œdema of the feet, remittent pyrexia (very slight at first) and general irritability. Many of the conditions of malnutrition detailed under inanition may accompany, and the entire diagnosis be doubtful until the disease localizes in the chest, abdomen or head, or a post-mortem makes the whole matter clear.

The distinctive points are the pyrexia and œdema. Excellent Old-School authorities do not make a necessarily grave prognosis in the beginning of such cases, even in the meningeal form, nor much more should the Homœopathist.

III.—*Syphilis.*—The mother's history of repeated abortions of macerated fœtuses should always make the practitioner suspicious of the child under consideration. In this disease, also, wasting is an early and pre-eminent symptom. The diagnosis is easily confirmed when, with the weazened, monkey-like appearance of the infant a few days or weeks after birth, there is wakefulness at night,

with weakly crying, nasal snuffling and generally coryza and a discolored and inelastic skin. If these signs are not sufficient, the inner surfaces of the nates and thighs show patches of erythema, which soon take on a shiny or coppery appearance, or the skin of the palms and soles becomes red and freely desquamates.

The irritation of the discharges may cause similar appearances, although a marked erythema spreading down the thighs is probably syphilitic. Papular rashes anywhere, and especially those about the mouth and anus, often fissured and ulcerated, all become conclusive signs.

Later in life the slow evolution of the teeth and their saw edges, together with the poor development of the long bones, may indicate this disease as well as also rickets, which, it should be remembered, may be readily engrafted on or follow along with syphilis.

Nervous or brain lesions also confirm the diagnosis later.

IV.—*Rickets.*—While the well-known osteal changes, especially along the sternum and at the epiphysial ends of the long bones, of this affection generally renders a diagnosis certain, the profuse sweating, slight pyrexia and digestive disturbances, with wasting, after the osteal changes are well under way, are confirmatory, and in their entirety distinguish rickets from any other disease of malnutrition. Wasting is not so prominent and marked a symptom in this as in the other conditions mentioned, for the rickety child may retain its flesh and fat until a late stage, although never presenting the firmness of flesh and fibre that goes with perfect health.

Restlessness and irritability are present as in tuberculous infants, and also sometimes enlargement of the liver and spleen.

Here, also, when Old-School prognosis is good, the Homœopathist, with his accurate knowledge of the various salts of Lime, Silica, Sulphur, etc., ought never to lose courage.

V.—The atrophic changes following enteric or other fevers are in themselves signs and causes of malnutrition, as, for instance, phthisis and tuberculosis.

VI.—Finally, an undiscovered empyema, without marked symptoms or pyrexia, is a rare cause of wasting in infants.

In conclusion then, that term marasmus has no place in medicine except as defining the first cause of wasting mentioned, viz., starvation or malnutrition. The other causes mentioned should be carefully excluded, and with none, except perhaps syphilis, should the prognosis be entirely unfavorable when proper conditions and care are obtainable.

Infantile Diarrhœa.

By Charles D. Crank, M.D., Cincinnati, O.

There is no subject within the domain of the general practitioner with which he is more familiar than that of infantile diarrhœa. It would appear almost superfluous to invite your attention to this condition, indeed I would not venture to do so were it not for the continued frequency and unrelenting death rate of this great scourge. It must be evident to every practitioner that infantile diarrhœa is neither a simple nor a single problem the solution of which is to be found in the indicated remedies alone, but that it consists of a number of factors some of which are not understood or made available in staying the current of this great destroyer. The question is as broad as it is important. Too broad to be covered by the limits of this paper. I can only refer to a few practical features which are claiming the attention of pædiatrics the world over. Features of primary importance because they deal with the possibility of prevention, which exceed in practical worth the probability of cure. Ever since the attention of the fraternity was arrested by an array of statistics showing that more than two-thirds of infantile gastro-intestinal troubles and three-fourths of the accompanying mortality were among the bottle-fed it has been untiring in its efforts to account for these remarkable facts.

The fraternity has reached the almost unanimous opinion that it is a question of dietetics, and that the difference in favor of the breast milk was principally owing to its being practically sterile. However much we may differ in our views respecting bacteria—their mission for good or for evil—research both in the clinical field and in the bacteriological laboratory clearly demonstrates that abnormal bacteria are found in the intestinal tract, and under conditions inimical to infant life and health. So well established is this fact that it is leading to a nosological reclassification, based upon such ætiological considerations rather than upon pathological finding or supposition, as heretofore.

Cholera infantum is now recognized under the term of "acute milk infection," and entero-colitis as "subacute milk affection," it being claimed that practically these conditions never occur with

infants at the breast. The question at once arises, "Are all forms of infantile diarrhœa of abnormal bacterial origin?" We do not know positively that any form of diarrhœa sustains a constant relation to any variety of bacteria; neither do we know the exact nature of the morbid processes which take place in the intestinal tract. We are lamentably ignorant in exact knowledge upon many of these points, but they are within the range of human knowledge, and our hope lies in this frank confession of our ignorance. The researches of Escherich, Bagnisky, Jeffries and others encourage the growing belief that pathogenic bacteria and infantile diarrhœa sustain relation to each other as cause and effect, some of the exceptions being the direct result of overfeeding, improper or irritating foods, wherein the primary "looseness" is salutary rather than otherwise. This variety is termed simple diarrhœa.

Without entering upon further consideration of the relation of bacteria to infantile diarrhœa, let me call your attention to two practical points:

First.—The increasing prevalence of artificial or substitute feeding.

Second.—The principle of rendering milk sterile.

To-day it is the exception rather than the rule for the mother to suckle her own offspring. And the indications are, says Rotch, "that substitute feeding will increase rather than decrease as civilization advances," and unless something is done to avert results, the slaughter of the innocents will continue in increased proportions.

Let me ask, Why are mothers so willing to escape this all-important and necessary duty? Let the new woman answer, and proceed to take an active interest in the societies forming in the East, which have for their purpose to encourage and facilitate maternal lactation in all classes of society, having especially in view the prevention of infantile mortality. But the family physician cannot escape his responsibility. Let him seek to remove the cause or causes which render artificial feeding necessary. Let him proclaim the truth that there is no sufficient substitute for the breast of a healthy mother; that the nursing-bottle is full of trouble, and may acquaint her with grief.

But it is claimed, and rightly too, that some mothers are not able to suckle their offspring, and it can as truthfully be said, some mothers ought not to do so. We will not stop to discuss the why or the wherefore or the extent to which this may be remedied. Recognizing the fact, let me briefly refer to the process which has for its object the rendering of milk sterile. I do not deem it neces-

sary to defend the principle involved or the benefit to be derived from its application, but some confusion has arisen as to the use of the term, as well as to the changes which have attended the application of the methods.

Prior to the scientific researches of Hueppe in 1859, Pasteur in 1851, and Lister in 1873, the true cause of the souring, fermentation and putrefaction of milk was unknown. Chemical means were resorted to to prevent the souring, or, if slightly turned, to render it palatable. These men first brought to light the truth that these changes would not take place if the milk was kept for a time at boiling temperature. This degree of heat destroyed the influence which impaired the wholesomeness of the milk. This influence was found to be of a micro-organic nature. No fact in science is better established than this. Quickly following this announcement came the sterilizer. Experience soon demonstrated that milk subjected to this degree of heat (212° F.) would undergo such changes as to render it unsuitable for infant nutrition.

Pasteur found that a temperature of from 140° to 160° F. suddenly brought down to a temperature of 50° was all that was necessary to destroy such bacteria as threatened the purity of the milk or the health of the child.

Koch and Klein corroborate this statement, and further, that at this temperature the nutritive properties are not disturbed. This method is termed Pasteurization, and has superseded that of sterilization.

Now comes Leeds with the statement that the tendency is toward a still lower temperature.* Probably no new suggestion was ever more favorably received and more generally acted upon than that of milk sterilization. The mother was led to believe that as good a nutriment as her own had been provided, and all that was necessary was to sterilize the milk, place the rubber in the baby's mouth, and the infant would do the rest. The sterilizer was introduced into the nursery and into public institutions. But infantile diarrhœa continued and the death-rate was not reduced.

"To knowledge must be added understanding, and to understanding, wisdom." It is true that milk to be a perfect food must be practically sterile. But it is just as true that it must be assimilable. Sterilization accomplished the former but failed in the latter,

* And still later that milk filtered through cotton and scalded before feeding, will protect an infant against all ordinary pathogenic influences and furnish a palatable and nutritious food. Or, according to Seibert, simply filtering through cotton will accomplish all that is desired.

and the failure has so prejudiced the community that there is great danger of the infant losing the benefit of the principle altogether. Experience in sterilization developed at least four important truths:

1. That milk heated above a certain temperature so alters the digestive principles as to render it unfit for infant digestion and nutrition.

2. That the inner relationship of the several constituents of cow's milk is not understood.

3. That the mission of bacteria and the relation of varied forms of micro-organic life to the intestinal tract is not understood.

4. That the solution of the feeding problem lies in a closer study of nature's processes and the better understanding of her provisions for her little ones.

The rendering of the milk sterile is not regarded as a cure-all in intestinal troubles, but as a preventive and a prophylaxis, and as such will be soon recognized by every state board of health, and it will become the duty of dairy commissioners and milk inspectors to protect the public by bacteriological as well as chemical examinations. It is the duty of every physician to awaken to a full significance of the interest involved; to realize that in it lies the progress of pædiatrics.

It is not claimed that bacteria are the only source or cause of infantile diarrhœa. It is not claimed that Pasteurization, sterilization, or any other method or process is infallible, or to be advised to the neglect of any other hygienic principle. It is not claimed that Pasteurization solves the great problem of substitute feeding.

But it is claimed that over 80 per cent. of infantile bowel troubles are preventable. It is claimed that the principal source of trouble is involved in questions of infantile dietetics and substitute feeding. It is claimed that the principal remedy lies in the use of human milk, and failing to secure that, in the approximating of cow's milk to the composition of human milk as nearly as possible. It is claimed that Pasteurization is one—and a very important one—of many efforts to that end. It is claimed that purity of cow's milk is the first desideratum, and for that purpose Pasteurization is of primary consideration.

Did time permit, I would claim that as an ætiological factor in the production of infantile diarrhœa next to *quality* of food, is that of *quantity*. If it be a task to arouse an intelligent interest in the subject of milk infection, doubly hard is it to awaken a generous mother, a thoughtless nurse, the busy practitioner to a proper understanding of infantile gastric capacity, its use and its abuse.

Illustrative Cases of Osteomyelitis in Children.

By Howard Roy Chislett, M.D., Chicago, Ill.

The most common forms of osteomyelitis in children are, in order of frequency, tuberculous, acute, infectious and syphilitic. The purpose of this paper is to cite a typical case of each variety, and to comment upon the usual treatment of these interesting and serious cases.

Case 1.—Tuberculous osteomyelitis of tibia. M. F.; age, six years; German parentage. Six months before presenting at my clinic the child had, while playing, received an injury about the middle of the right tibia. The blow was not regarded as sufficiently serious to demand a doctor's attention, so the mother applied Arnica compresses for a few hours, and then allowed the child to go out to play. Two months later the child began to limp, and she complained of pain in the leg when attempting to rise from a sitting posture. A physician was then called to see her, looked at the swollen and tender limb, and as the pain was better after moving about, he said "it must be of a rheumatic nature," and prescribed some remedies. He treated her thus for awhile without results, and, finally, after four months of suffering, during which she consulted as many physicians, she found one who pronounced it bone disease, and brought her to the hospital. Examination revealed the following points: A fairly well-nourished girl, of average size and good family history. Her temperature ranged from 99° in the morning to 101° or 102° at night, the pulse always in the neighborhood of 100°. She had never been seriously ill, but, as the result of some infant illness, had been troubled at times with a discharge from the ears and some impairment of hearing.

The right tibia at its middle was swollen and tender, the overlying soft parts being œdematous and the skin tense and shiny. The parts were hotter than the surrounding parts, and upon close inspection a slight tinge of redness was apparent.

Diagnosis of tuberculosis made and operation advised and accepted. Operation: The limb, being properly prepared, was elevated and an elastic constrictor applied about the thigh. An in-

cision three inches long was made through the œdematous tissues over the inflamed region down to the bone. The periosteum was separated for the full length of the incision, and held aside by suture retractors. The first blow of the chisel disclosed the osteoporotic bone and the tuberculous granulations in the stages of caseation and suppuration. The diseased tissue was all removed with the chisel and curette, the cavity cleansed with hot water and hydrogen peroxide, after which it was carefully painted with the Tr. of Iodine. The soft parts, including the periosteum, were then carefully approximated by interrupted sutures of silk worm, the ordinary dressings applied, and the foot held in the elevated position for half an hour after the removal of the elastic constrictor. The cavity filled with the moist blood-clot, which served as a basis for the granulations of repair. The stitches were removed in one week, the wound being perfectly healed.

The history of slight injury; the gradual onset; the absence of acute symptoms; the dull aching, rather than the sharp boring pain; the moderate swelling and tenderness, and the mild, constitutional symptoms, give us a typical case of bone tuberculosis that should never be mistaken.

Case II.—Acute epiphysitis. E. W.; age, 4 years; Italian parentage.

History.—Eight months ago this child had an attack of "rheumatism." The mother noticed that she was suddenly attacked with a very high fever. About two days after the onset of the fever a decided swelling of the left knee was apparent. This swelling was attended with considerable pain, heat and tenderness, the parts assuming a bright red flush. The pain was so increased by movement that the knee-joint was maintained rigid. Though the cavity of the joint was distended, the point of greatest swelling and most exquisite tenderness seemed to be in the middle line, just below the knee, and at this point in about eight days there was a spontaneous opening, and the discharge of a quantity of pus. After this evacuation the fever, pain and swelling gradually subsided, the joint effusion being entirely absorbed. The wound discharged freely for a time, then attempted to heal from time to time, but always to reopen. It was in this condition she was brought to my clinic. The suddenness of the onset, the acuteness of the fever, the severity of the pain and the rapidity of destruction all pointed to a diagnosis of acute epiphysitis, which, fortunately for the patient, ruptured externally instead of into the joint. Entering a probe into the open-

ing it was easily passed into a cavity in the head of the tibia, where dead bone was plainly to be felt. Fearing involvement of the articular surface, immediate operation for the removal of the diseased bone and the establishment of more perfect drainage was advised and accepted.

The opening was enlarged, the bone cut away, so as to thoroughly expose the existing cavity. The diseased bone was removed, and the cavity cleansed, when it was found that the examining finger could readily determine the articulating cartilage at one point in its centre. The cavity was packed with Iodoform gauze and redressed and cleansed every day, completely healing in the course of six weeks. In this case the faulty diagnosis did no special harm, as the primary focus was located near the surface. If it had been even a short distance nearer the articulation the child would probably have lost the limb through acute suppurative arthritis, and had it been a trifle lower, separation of the epiphysis and subsequent failure in development would have given a limb of markedly diminished utility.

CASE III.—Syphilitic osteomyelitis. E. L.; age, 12 years; American.

History.—This little girl had an undoubted heritage of syphilis, as evidenced by the history of "snuffles," eruption and fissured anus during early childhood. The broad, square forehead, the prominent frontal eminence, the widened nasal bridge and the notched teeth of the present are also indubitable evidences. The patient has in the past six months complained a great deal of pains in her legs, especially the right. At times, even before this, she has noticed little lumps, very tender to pressure, would appear on her limbs, only to go away again in a week or so. These pains have been most severe at night, and lately she has noticed a gradual enlargement of the "shin bone." Upon examination it did appear irregularly thickened all around, but of course most noticeable anteriorly. The overlying skin was neither œdematous nor red, but exquisitely sensitive to even slight pressure, and the whole bone was tender either to pressure or jars. There were no constitutional symptoms at the time of examination, though the mother thought she had fever at intervals. Otherwise was apparently very well.

The history and appearance of the patient, the chronic course, the diffused, tender enlargement, without either local or constitutional fever, rendered the diagnosis easy. The treatment consisted of five-grain doses of Iodide of potash, three times daily, and soon

removed the symptoms, though the swelling still remains almost the same. Probably there will always be some periosteal thickening.

With the three cases before us, the differences in history, onset symptoms and course, it seems incredible that they could all be mistaken for the same disease. They were though, and it is for this very reason that the cases are reported at this meeting.

It is the most common error observed by surgeons that surgical diseases of the bones and joints of all sorts, and even in all stages, are diagnosed and treated as rheumatism. I do not make this statement to reflect upon any one's ability, but it is meant as a censure to those medical men who will prescribe day after day and may be week after week without even making an examination. It is true that in many instances a general practitioner can make a finer diagnosis than a specialist; perhaps they all *can*, but they all *don't*. In view of the frequency of these errors, the surgeon often asks himself whether they are the result of ignorance or only carelessness? If the former, it is deplorable; if the latter, it is to be strongly condemned. For no man has a right to attempt taking care of more cases than he can find time to examine.

Enuresis in Children.

By A. P. Hanchett, M.D., Council Bluffs, Ia.

Enuresis is, I dare say, the disorder in the urinary tract regarding which every physician is most frequently consulted. The incomplete development of the sphincters in the infant permit the involuntary discharge of urine and fæces during the first year or two, unattended by subjective sensations. The sphincter ani first gains sufficient strength to retain and control the contents of the bowels, generally during the first year of life; the sphincter vesicæ coming under the control of the will, as a rule, about the end of the second year. When, however, the infantile condition continues beyond this time, even though the urinary organs may be in practically a normal condition, with perfect control when awake, a weakness may remain during sleep, with involuntary escape of urine, or enuresis nocturna. If only troublesome during the day, we know it is enuresis diurna, or when present day and night, enuresis continua.

In whatever form it appears or persists beyond the usual time for spontaneous cure, it must be looked upon as a symptom, the causes of which may be many. As intimated above, it may result from persistent infantile weakness of the sphincter vesicæ. This muscular debility is often but part of a general muscular incompetency found in these children. Sometimes they are also dull and slow of comprehension; others are anæmic and generally feeble. Some seem to expend all their vitality in rapid intellectual development, being bright, keen, spirited, excitable; mentally vigorous though easily exhausted, the whole muscular system being poor and flabby, the sphincters partaking of this relaxed condition, resulting in incontinence.

A very common cause for enuresis in children is found in some organ more or less remote from the bladder, and the trouble is then said to be reflex. Rectal irritation, as fissures, piles, or pin worms, is very frequently the cause. Some unnatural condition of the sexual organs, as adherent or enlarged foreskin, adherent hood of the clitoris, or pin worms in the vagina, may cause it, and mastur-

bation, by increasing the sensitiveness of the urethra and neck of the bladder, may result in enuresis.

The urine may be changed in character and should be carefully examined. In all obscure cases make careful chemical test and microscopic examination for evidence of cystitis, pyelitis, nephritis, diabetes, uræmia, or an excess of calcic oxalate, triple phosphate or simple earthy phosphate.

It should also be remembered that psychical causes may be responsible for enuresis. Children suffering from nocturnal enuresis only, who have complete control of the urinary functions during the day, are, in a majority of cases, victims of the psychical form of this disorder. It is clear in such cases that the bladder is in a healthy state, and will retain a normal amount of urine, but as it fills and produces the usual pressure, instead of waking the child, it induces a dream which is influenced by the dominating fear that an accident will happen. He will dream of rain, or of running water, or that he is in some suitable place for passing urine, and will only waken to find himself saturated. This form of the trouble can often be corrected by suitable remedies, but it is sure to disappear at puberty, the sexual development changing the psychological condition.

In the treatment of enuresis it is of first importance to determine the cause. When weakness of the sphincter muscle is the trouble, accompanied by more or less physical debility, look carefully after the general health. See to the diet, that it is wholesome and nutritious. These children are generally poor feeders; they are apt to crave sweets, and are often allowed cookies, cakes, candy, nuts, richly-preserved fruits, highly-spiced pickles, pies and coffee, too much meat; lunching and munching something all the day long, and not one fair meal eaten during the day.

Insist upon regular hours for eating, and only permit the use of proper food. Breakfast is an important meal, after fasting all night. The child should rise an hour before the time for breakfast, and, when old enough and the weather suitable, some out-of-door exercise taken to encourage an appetite. The meal should consist of oat meal, cracked wheat, or some such item, with cream or milk, and a reasonable quantity of sugar, if desired; milk in such quantities as it can be enjoyed, good, light bread or toast, waffles and syrup, eggs and fresh fruit. The heartiest food should come at the mid-day meal. At this time meat in reasonable quantity may be taken with vegetables and farinaceous foods. The evening meal

should be a matter of much careful thought, that it may be tempting, nutritious, and yet light. Milk, eggs in some form, fresh or wholesome fruit, but never richly-preserved or stale, dried fruit for a child, and farinaceous foods of all sorts to suit the taste, but meats and vegetables, pickles, nuts, confections, etc., should be wholly avoided.

The habit of eating irregularly should be corrected at once and regularity rigidly observed. Even in very young children if the the practice of partaking of food between the regular meals is never permitted there will be found no inconvenience from waiting the usual interval, and the child will then come to the table with a good wholesome appetite. No habit of childhood do I oftener find working harm to the child than this.

Next to diet in importance to these children is the question of exercise. This may be even more difficult to regulate to our fancy, but we can be of service if we lay down our laws wisely and emphatically. The child should take at least a half-hour's good, vigorous exercise before breakfast. He should rise at such an hour that this can be done without haste or confusion. Out of doors in all suitable weather, but out of bed always. To do this he should be in bed early. Children differ somewhat in their requirements of sleep, but all need more than adults. Ten to twelve hours may be set down as a fair average after infancy, and the best rest is obtained in the early part of the night. When children are growing rapidly their exercise should be so chosen as to encourage constant change, and the rest of one set of muscles while others are employed.

Then the bath, which should be daily, only a quick sponge in just tepid water, the chief time and attention being given to the rubbing which follows. Make a point that this is not slighted, especially in the axilla, groins and crevices between the toes. Leave the body aglow. See that much of the rubbing is from the extremity toward the body, to encourage the venous circulation. I believe the prolonged plunge bath with great quantities of hot water and soap is a serious evil for these feeble children, and should never be employed.

The remedy that is indicated for the child's general condition will cure the enuresis, and will often be found among the following: Alumina, Belladonna, Calcarea carb., Calcarea phos., Ferrum, Gelsemium, Iodine, Kali carb., Kali phos., Lycopodium, Natrum mur., Sepia, Silicia or Sulphur.

When reflex troubles are causing enuresis the primary cause must

receive first attention, but when no abnormality is discoverable in the pelvic organs that can be causing this condition, and when the general nutrition and muscular condition seem about normal, and still this troublesome disorder continues, our hope must be in a close study of our patient and a careful selection of the remedy most perfectly indicated. The following, with a few of the most characteristic symptoms, have been of help to me:

Aconite.—In cases of neurotic origin: wakes in a state of terror; excitable; frightened easily; restless and nervous, with some fever.

Argenitum Nit.—Incontinence of urine during the day; also at night.

Urine passed unconsciously and uninterruptedly.

The urine contains red crystals of uric acid.

Great craving for sweets; flatulent indigestion.

Belladonna.—Nervous children; starting and jumping in the sleep; screaming out during sleep; weak, relaxed condition, with insufficiency of the sphincter.

Glandular enlargements.

Benzoic Acid.—Enuresis with strong-smelling urine; strong, pungent urinous odor; urine staining dark brown.

Calcarea Carb.—Children who take cold easily; sweat much about the head; fair complexion; wet the bed at short intervals all night long.

Cantharis.—Child controls the urine generally during the day, but goes to the closet very often; at night urine passes unconsciously, little at a time. Some discomfort when passing in day time, and restless moving at every escape during sleep.

Causticum.—Enuresis during first sleep; chronic periodic swelling of tonsils; sweat on genitals; herpetic eruption on eyelids. Scrofulous.

Chamomilla.—Very cross; must be carried, when becomes quiet.

Cina.—Urine profuse, with strong ammoniacal odor; voracious appetite, or none at all; changeable; cross; symptoms of worms.

Gelsemium is useful when there is a muscular insufficiency with a general condition of relaxation; urine escapes unconsciously day and night.

Ferrum Met.—Child pale and anæmic, but flushes when excited or in pain; frequent wetting of clothing during the day.

Lithium carb. and *Lycopodium* are often useful when the urine is excessively acid; uric acid crystals in the form of brick-dust may be seen in chamber after cooling.

Sepia resembles Causticum in the symptoms, and follows it well; wets the bed profusely during first sleep; urine high colored; red sand in urine, or red slimy deposit.

Silicia.—Sweats profusely when asleep; offensive foot sweat with scalded appearance, especially between the toes.

Spigelia.—Worm symptoms.

Sulphur.—Dirty, ill-nourished children, who dread a bath.

Pale, thin, stoop-shouldered children with large abdomens; great craving for sugar and highly-seasoned food.

Enlarged glands and generally scrofulous appearance.

Continued Fevers of Children.

By Allison A. Clokey, M.D., Louisville, Ky.

I would not enter at this time into a consideration of the fever which is symptomatic, and hence secondary, we might say, to an inflammation in some organ; for example, "gastric fever," so called. If there be such a fever, with the lesion in the stomach, we must conclude that the latter is inflamed, in a condition of catarrh, and the pyrexia is only that incident to the inflammation anywhere. We would hardly expect a fever symptomatic of inflammation in the stomach to differ in any way from inflammation of the same type in the intestines, for instance. By continued fevers, of either child or adult, I understand that we mean those caused by some miasm, and the title of this paper might, therefore, just as well have been "Typhoid and Remittent Fevers," for these are the fevers which I propose to discuss.

Typhoid and remittent fevers play so important a part in the practice of the general practitioner, and every physician who has them to deal with is so familiar with their every phase, that any further consideration of them seems almost superfluous. No attempt, therefore, will be made to treat the subject exhaustively, but only a few observations will be offered, which every physician who practices in a malarial locality has doubtlessly made for himself.

I seriously question whether typhoid and remittent fevers deserve a place in a work devoted exclusively to diseases of children. As a matter of fact, we know that they are much more common among adults, to which I would add that remittent fever is relatively more common in either case. It is a well-known fact that Peyer's patches, which are the seat of the specific lesion of typhoid fever, are undeveloped during the early years of life, and for this reason we are told that it is not until about the fifteenth year that age becomes a predisposing cause of typhoid, the years between fifteen and twenty-five being those in which the disease most frequently occurs.

I would throw out a thought in this connection which has frequently occurred to me in the study of typhoid fever. It is said that "The groups called Peyer's patches are very imperfect (in

children)—so much so that they are not liable to disease; and typhoid fever, in which they are invariably inflamed, is extremely rare in children." (Jacobi.) Is the inflammation of Peyer's patches the *sine qua non* of typhoid? If not, how does this imperfect development in early life account for the infrequency of typhoid during these years? We understand that typhoid is a specific systemic infection, in which the *blood* is the first tissue affected, the lesions in the intestines and elsewhere being secondary to the blood changes. Loomis says: "As soon as the disease is fully established a change in the *blood* occurs. In connection with these blood changes, a series of changes takes place in those organs and tissues of the body in which the process of waste and repair are most rapidly going on." If this be correct how can the condition of Peyer's patches in the child play any part in his seeming immunity from typhoid fever?

I cannot believe, at any rate, that typhoid and remittent fevers in the child differ in any way from the same diseases in the adult, and in the following pages they will be considered in the abstract, without reference to age.

In the study of the peritonæum we are taught as students to trace the two layers, anterior and posterior, together, following them from the under surface of the diaphragm to the upper surface of the liver, around the liver in front and behind, down to the stomach and around it in front and behind, down in front of the intestines and back again to form the greater omentum, and thence to the transverse colon, where the two layers part company, the one going up and the other down.

Typhoid and remittent fever follow in many respects so nearly the same clinical course that it occurs to me that they, like the two layers of the peritonæum, may well be studied together, the points where they differ only serving to emphasize their resemblance throughout the rest of their course.

To the mind of the physician who practices in a malarial locality, almost the first question that presents itself in connection with a case of continued fever is, "Is it typhoid or remittent?" To those who practice in localities free from malaria, where typhoids pursue a typical course, this question may seem an ignorant one. Our textbooks draw such easy lines for diagnosis between typhoids and remittent that one should feel almost ashamed to confess that he was not quite certain of his case, especially when he has had it under observation from the beginning.

In malarial climates we see but few typical typhoids, and the possibility of the fever being remittent often makes the diagnosis not only difficult but sometimes almost impossible. I have myself had cases which I have seen twice daily from start to finish, in which even after convalescence was thoroughly established I was unable to say positively whether it had been typhoid or remittent. A case in point might be mentioned—that of a lady, for example, whose fever ran four weeks, the temperature curve being characteristic of neither typhoid nor remittent; there was nothing positive about the appearance of the tongue; the condition of the bowels was not suggestive; there was no eruption; no somnolence or delirium; there was but little exhaustion and emaciation. One day I diagnosed the case typhoid, only to change to remittent the next, and after convalescence was established, in the fifth week, I was as uncertain of the diagnosis as at any time during the course of the case. Upon the first departure from a strictly liquid diet, several days after the temperature had become normal, intestinal hæmorrhages occurred, and the patient had a *relapse*. The diagnosis was, alas! finally clear. The Peyer's patches were involved, it was typhoid.

In work at the City Hospital where the cases of continued fever come in usually after they have run a week or longer, it is sometimes with the greatest difficulty that we can diagnose between a mild case of typhoid and a severe case of remittent fever. In such cases we are frequently assisted in clearing up the diagnosis by cautiously feeding the patient a little solid food, a dry cracker, for instance. If the case be typhoid a rise in temperature almost immediately follows, owing to the irritation of the inflamed agminated patches, whereas no exacerbation occurs if it be a case of remittent fever.

It is claimed by some writers that the diagnosis of typhoid can not be made with positiveness unless there be the typical temperature range and the eruption. If that be the case we have but little, if any, typhoid in the location where the writer lives. We seldom even look for the eruption, nor do we consider a departure from the classical temperature range incompatible with a diagnosis of typhoid. Our typhoids are typho-malaria, in which the typical evening rise of temperature is exaggerated by the malarial complication. In making our diagnosis we must depend upon the general *ensemble* of the case, which is usually characteristic enough for the purpose of differentiation. The dry, brown tongue, the tender and tympanitic abdomen, the delirium, the emaciation and prostration carry us

away from remittent fever into typhoid. And yet these features are frequently so indistinct in a mild case of typhoid, and are so frequently present in a severe case of remittent, that it is difficult to make the diagnosis.

However much typhoid and remittent fever may seem to overlap in their general appearance, they are ætiologically and pathologically quite separate and distinct. I have before me a recent work on pædiatrics in which "Infantile Typhoid Fever" and "Infantile Remittent Fever" are mentioned as synonymous. I am not at all in sympathy with this classification. Aside from the fact that I do not consider infantile typhoid and infantile remittent as distinct types, I am certain that ætiology and pathology carry the two fevers away from each other, no matter how closely their clinical course and therapeutics may approach.

The treatment of typhoid fever and remittent fever have so much in common that it must be quite a consolation to the physician who is in doubt of his diagnosis. In a doubtful case the patient will, of course, be placed on a liquid diet, which should be rigidly adhered to as long as any doubt exists.

The therapeutics of the two fevers is definite, and the writer would not go into a tiresome detail of all of the remedies which have stood the test of repeated trials. Every physician has these remedies and their indications at his finger ends. In this article only two remedies will be mentioned, which, from their service in both typhoid and remittent, are absolutely indispensable to the physician who practices where malaria abounds. They are Gelsemium and Arsenicum.

Gelsemium is one of our very best remedies in the first days of typhoid, especially typho-malaria, and in mild cases is often the only remedy needed throughout. In remittent fever it is the remedy *par excellence*. In hospital practice the writer has learned to place the utmost confidence in Gelsemium. After trying other remedies, he has come to the conclusion that no other remedy acts half so well in remittent fever. Other cases, similar in every respect, treated Homœopathically with other remedies, as they seemed indicated from day to day, did not recover so promptly as those kept on Gelsemium throughout. The more nearly the symptoms of a mild case of typhoid approach remittent fever the better is Gelsemium indicated.

In either typhoid or remittent fever where the intoxication of the system is too profound for Gelsemium, as shown by persist-

ency of the fever or by great exhaustion, *Arsenicum* takes the place occupied by the former remedy in the treatment of the milder forms. Persistent temperature or progressing adynamia are the indications that should lead to the substitution of Arsenicum for Gelsemium.

I believe that the pathology of typhoid and remittent fever supports the selection of these two remedies. In either case we have an intoxication of the system by a specific infection; the whole system is infected, and then in typhoid fever the specific lesions appear in the intestines, but we do not understand that the course of typhoid is *determined* by the extent of these lesions. In other words, the intestinal changes do not constitute the pathology of typhoid; that is rather the changes in the blood, as in the case of the malarial fevers, remittent or intermittent.

In the Gelsemium case of either typhoid or remittent fever the poison spends its force on the circulatory centres, and we have that relaxation without much emaciation which is common in a mild case of either fever. In the Arsenicum case the poison attacks the nerve centres, and we have that intense prostration and emaciation which indicate that the very centres of organic life have been seriously affected. I say that although the ætiology of the two fevers differ, and although there are specific lesions in the one fever and none in the other, yet *the same centres are attacked, and in very much the same way* by both poisons.

If this reasoning be correct, the two remedies mentioned are as Homœopathic to typhoid as to remittent fever.

REPORT

OF THE

Committee on Organization, Registration and Statistics.

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HOMŒOPATHIC ORGANIZATIONS AND INSTITUTIONS IN THE UNITED STATES.

By Thomas Franklin Smith, M.D., New York, N. Y.

National Societies.

American Institute of Homœopathy. Annual meeting was held in Detroit, Mich., from June 17 to 24, 1896. President, Pemberton Dudley, M.D., 1405 North Sixteenth Street, Philadelphia, Pa.; Secretary, Eugene H. Porter, M.D., 181 West Seventy-third Street, New York, N. Y. Organized 1844. Not incorporated. Members admitted last year, 150; died last year, 26. Annual dues, $5.00. Publishes its annual *Transactions*.

International Hahnemannian Association. Annual meeting was held in Glen Summit, Pa., June, 1896. President, William P. Wesselhoeft, M.D., Boston, Mass.; Secretary, Erastus E. Case, M.D., Hartford, Conn. Organized 1880. Not incorporated. Members, 139; admitted last year, 7; died last year, 2. Annual dues, $5.00. Publishes its annual *Transactions*.

American Obstetrical Society. Annual meeting is held in New York City, second Thursday in December. President, John N. Mitchell, M.D., 113 S. 16th Street, Philadelphia, Pa.; Secretary, George W. Winterburn, M.D., 375 Manhattan Avenue, New York, N. Y. Organized 1885. Incorporated in 1885. Members, 119. Annual dues, $1.00.

National Association of Homœopathic Medical Examiners. Annual meeting is held at the same time and place as the American Institute of Homœopathy. President, A. R. Wright, M.D., 414 Elmwood Avenue, Buffalo, N. Y.; Secretary, Horace M. Paine, M.D., Atlanta, Ga.; Delegate, A. R. Wright, M.D. Organized 1891. Not incorporated. Members, 100. Annual fee, $1.00.

National Homœopathic Association of Members of Committees on Medical Legislation. The annual meeting is held in conjunction with the meetings of the American Institute of Homœopathy. President, J. B. G. Custis, M.D., 110 East Capitol Street, Washington, D. C.; Secretary, Horace M. Paine, M.D., Atlanta, Ga.; Delegate, J. B. G. Custis, M.D. Organized 1891. Not incorporated. Members, 200. Annual dues, $2.00. This Association is designed merely for discussion and mutual conference on subjects relating to medical legislation bearing on the medical civil rights of the profession.

National Association of Superintendents and Managers of Homœopathic Hospitals for the Insane. The annual meeting is held in conjunction with the meetings of the American Institute of Homœopathy. President, Selden H. Talcott, M.D., Middletown, N. Y.; Secretary, Horace M. Paine, M.D., Atlanta, Ga.; Delegate, Selden H. Talcott, M.D. Organized 1894. Not incorporated. Members, 100. Annual dues, $1.00.

Society of Homœopathicians. Annual meeting held in June. Secretary, S. A. Kimball, M.D., 124 Commonwealth Avenue, Boston, Mass.

Sectional or Interstate Societies.

Southern Homœopathic Medical Association. Annual meeting held in Nashville, Tenn., November 10 to 12, 1896. President, S. S. Stearns, M.D., 1425 Rhode Island Avenue, N. W., Washington, D. C.; Secretary, Charles R. Mayer, M.D., 1032 St. Charles Avenue, New Orleans, La.; Delegates, Sarah J. Millsop, M.D., T. Griswold Comstock, M.D., V. H. Hallman, M.D., Thomas L. MacDonald, M.D., George F. Shears, M.D. Organized 1885. Not incorporated. Members, 160; admitted last year, 9; died last year, 1. Annual dues, $3.00. Publishes its *Transactions*.

State and Local Societies.

Alabama.

Alabama Homœopathic Medical Association. The annual meeting was held in Birmingham, May 20, 1896. President, A. M. Duffield, M.D., Huntsville, Ala.; Secretary, A. V. Ballard, M.D., Birmingham, Ala.; Delegate, A. M. Duffield, M.D. Organized 1890. Incorporated 1890. Members, 10. Annual dues, $2.00.

California.

California State Homœopathic Medical Society. The annual meeting is held the second Wednesday in May wherever the Society elects. President, C. B. Currier, M.D., 921 Geary Street, San Francisco, Cal.; Secretary, Eleanor F. Martin, M.D., Palace Hotel, San Francisco, Cal.; Delegate, Laura A. S. Ballard, M.D. Organized 1877. Incorporated 1877. Members, 98; admitted last year, 7; died last year, 17. Annual dues, $2.00.

Alameda County Homœopathic Medical Society. The annual meeting is held in Oakland, Cal., the second Tuesday in January. President, R. L. Hill, M.D., 564 Fourteenth Street, Oakland Cal.; Secretary, N. H. Chamberlain, M.D., 562 East Fifteenth Street, Oakland, Cal. Organized 1877. Not incorporated. Meetings monthly. Members, 20; admitted last year, 6; died last year, 2. Annual dues, $1.00. It is the oldest county society in the state.

San Diego Homœopathic Medical Society. The annual meeting is held in San Diego the third Wednesday in December. President, E. Eveline Bailey, M.D., Seventh Street, opposite the post-office, San Diego, Cal.; Secretary, Thomas Docking, M.D., 164 Boston Avenue, San Diego, Cal.; Delegates, E. V. Van Norman, M.D., Thomas Docking, M.D. Organized 1889. Not incorporated. Meetings monthly. Members, 19. Annual dues, $2.00. Has published an article on "Septicæmia," by T. G. McConrey, M.D., and one on "Injuries to the Frontal Bone," by C. H. Shrader, M.D.

San Francisco County Homœopathic Medical Society. The annual meeting is held in San Francisco, the first Monday in December. President, George H. Palmer, M.D., 606 Sutter Street, San Francisco, Cal.; Secretary, Guy E. Manning, M.D., 331 Geary Street, San Francisco, Cal. Organized 1893. Not incorporated. Meetings monthly. Members, 52; admitted last year, 11; died last year, 1. Annual dues, $1.00.

Southern California Homœopathic Medical Society. The annual meeting is held in Los Angeles or adjacent cities, on the second Wednesday in October. President, A. K. Johnson, M.D., San Bernardino, Cal.; Secretary, Henry L. Stambach, M.D., Santa Barbara, Cal. Organized 1891. Incorporated 1892. Members, 56; admitted last year, 3. Annual dues, $2.00. Has published its Constitution and By-Laws.

Organon and Materia Medica Club of the Bay Cities of California. The annual meeting is held in San Francisco, on the first Friday in December. President, J. M. Selfridge, M.D., 1068 Broadway, Oakland, Cal.; Secretary, W. E. Ledyard, M.D., 223 Post Street, San Francisco, Cal. Organized 1894. Not incorporated. Meetings semi-monthly. Members, 11; admitted last year, 3; died last year, 1. Has published "Medicine and Infinitesimals," by J. M. Selfridge, M.D.; also "Ovaritis Cured," by A. McNeil, M.D.

Colorado.

Homœopathic Medical Society of the State of Colorado. The annual meeting is held alternately in Denver and some other city, on the second Tuesday in May. President, S. J. Clarke, M.D., Loveland, Colo.; Secretary, J. P. Willard, M.D., Masonic Temple, Denver, Colo.; Delegates, G. S. Peck, M.D., J. P. Willard, M.D. Organized 1881. Not incorporated. Meetings semi-annually. Members, 50; admitted last year, 7; died last year, 1. Annual dues, $2.00. Has published various articles in journals.

Denver Homœopathic Medical Club. The annual meeting is held in Denver, on the third Monday in January. President, E. H. King, M.D., Steele Block, Denver, Colo.; Secretary, J. C. Irvine, M.D., Steele Block, Denver, Colo.; Delegate, J. Wylie Anderson, M.D. Not incorporated. Meetings monthly. Members, 40; admitted last year, 6. Annual dues, $1.00. Has published twenty-four papers in the journals. Organized 1890.

Connecticut.

Connecticut Homœopathic Medical Society. The annual meeting is held alternately in New Haven and Hartford, on the third Tuesday in May. President, Edwin C. M. Hall, M.D., 82 Grand Avenue, New Haven, Conn.; Secretary, Walter Sands Mills, M.D., Albuquerque, N. M.; Delegates, Clifford R. Adams, M.D., Clinton E. Stark, M.D. Organized 1851. Incorporated 1864. Meetings semi-annually. Members, 85; admitted last year, 3. Annual dues, $3.00. Publishes its annual *Transactions*.

Bridgeport Homœopathic Medical Society. The annual meeting is held in Bridgeport, on the third Tuesday in September. President, C. E. Sanford, M.D., Bridgeport, Conn.; Secretary, T. Hills Cole, M.D., Bridgeport, Conn. Organized 1894. Not incorporated. Meetings monthly. Members, 12; admitted last year, 2. Annual dues, $1.00.

Delaware.

Homœopathic Medical Society of Delaware and the Peninsula. The annual meeting is held in Wilmington, on the second Tuesday in November. President, J. Paul Lukens, M.D., 911 Washington Street, Wilmington, Del.; Secretary, Drusilla G. Barlow, M.D., 811 Washington Street, Wilmington, Del.; Delegates,

C. M. Allmond, M.D., Thomas O. Clements, M.D. Organized 1883. Incorporated 1884. Members, 24; admitted last year, 1; died last year, 1. Annual dues, $2.00.

District of Columbia.

Homœopathic Clinical Society of Maryland and District of Columbia, Washington Branch. The annual meeting is held alternately in Washington, D. C., and Baltimore, Md. President, William R. King, M.D., 1422 K Street, N. W., Washington, D. C.; Secretary, Richard Kingsman, M.D., 701 East Capitol Street, Washington, D. C.; Delegate, William R. King, M.D. Organized 1890. Not incorporated. Meetings monthly. Members, 22. Annual dues, $2.00.

Washington Homœopathic Medical Society. Meetings monthly. Members, 12; admitted last year, 1.

Washington Medical and Surgical Club. The annual meeting is held in Washington, on the third Thursday in December. President, Reginald Munson, M.D., 3101 P Street, N. W., Washington, D. C.; Secretary, Charles A. Davis, M.D., 1010 Fifteenth Street, Washington, D. C.

Georgia.

Atlanta Medical Club. The annual meeting is held in Atlanta, on the first Monday in June. President, R. E. Hinman, M.D., 25 Grant Building, Atlanta, Ga.; Secretary, Clarence M. Paine, M.D., 67 North Forsyth Street, Atlanta, Ga.; Delegate, F. H. Orme, M.D. Organized 1882. Not incorporated. Meetings monthly Members, 6.

Illinois.

Illinois Homœopathic Medical Association. The annual meeting is held in different cities in Illinois, on the second Tuesday in May. President, J. B. Dunham, M.D., Winona, Ill.; Secretary, Cornelia S. Stettler, M.D., 181 Dearborn Avenue, Chicago, Ill.; Delegates, S. P. Hedges, M.D., L. C. Grosvenor, M.D., R. Ludlam, M.D. Organized 1855. Incorporated 1865. Members, 350. Annual dues, $2.00.

Clinical Society of Hahnemann Hospital of Chicago. The annual meeting is held in Chicago, on the last Saturday in April. President, J. P. Cobb, M.D., 3156 Indiana Avenue, Chicago, Ill.; Secretary, Cornelia S. Stettler, M.D., 181 Dearborn Avenue, Chicago, Ill.; Delegate, Cornelia S. Stettler, M.D. Organized 1877. Not incorporated. Meetings monthly. Members, 120; admitted last year, 16; died last year, 1. Annual dues, $1.00. Publishes monthly reports in the *Clinique*. This society has missed but two monthly meetings in twenty years.

Dunham Medical Society. The annual meeting is held in Chicago, Ill., on the first Tuesday in October. President, J. F. O'Neal, M.D., 1013 Fifty-fifth Street, Chicago, Ill.; Secretary, Howard Crutcher, M.D., 103 State Street, Chicago, Ill.; Delegate, H. W. Pearson, M.D. Organized 1891. Incorporated 1892. Meetings at members' houses. Members, 29; admitted last year, 8. Has published a number of papers in various journals.

Homœopathic Medical Society of Chicago. Holds its annual meeting in Chicago, on the second Thursday in January. President, Homer V. Halbert, M.D.,

70 State Street, Chicago, Ill.; Secretary, W. W. Stafford, M.D., 100 State Street, Chicago, Ill.; Delegates, Charles E. Fisher, M.D, Charles Gatchell, M.D. Organized 1884. Incorporated 1884. Meetings monthly. Members, 450; admitted last year, 150. Annual dues, $2.00. Has published numerous papers in the medical journals.

Materia Medica Club of Chicago. The annual meeting is held in Chicago in June. President, Henry C. Allen, M.D., 5142 Washington Avenue, Chicago, Ill.; Secretary, J. B. S. King, M.D., 240 Wabash Avenue, Chicago, Ill. Organized 1890. Not incorporated. Meetings monthly. Members, 25.

Northwestern Homœopathic Medical Society. The annual meeting is held in Freeport on the first Thursday in December. President, S. H. Arend, M.D., Freeport, Ill.; Secretary, A. E. Smith, M.D., Freeport, Ill.; Delegates, S. H. Hilliard, M.D., W. A. Franklin, M.D., H. A. Noyes, M.D., J. C. Burbank, M.D., A. E. Smith, M.D. Organized 1895. Incorporated 1895. Meetings quarterly. Members, 20; admitted last year, 20. Annual dues, $1.00.

Rock River Institute of Homœopathy. The annual meeting is held in Dixon, Ill., on the first Wednesday in October. President, C. B. Kinyon, M.D., Rock Island, Ill.; Secretary, A. W. Blunt, M.D., Clinton, Ia.; Delegate, C. B. Kinyon, M.D. Organized, 1881. Not incorporated. Meetings quarterly. Members, 38; admitted last year, 2. Annual dues, $1.00. Has published a number of papers in various journals. This is one of the most vigorous societies in this part of the country.

Indiana.

Indiana Institute of Homœopathy. The annual meeting is held in Indianapolis on the second Wednesday in May. President, G. O. Erni, M.D., New Albany, Ind.; Secretary, Frank C. Stewart, M.D., Indianapolis, Ind.; Delegate, O. S. Runnels, M.D. Organized 1866. Not incorporated. Members, 122; admitted last year, 8. Annual dues, $2.00. Has published its annual *Transactions*, a volume of 104 pages.

Evansville Homœopathic Medical Society. The annual meeting is held in Evansville on the first Tuesday in May. President, S. L. Tyner, M.D., Newburg, Ind.; Secretary, C. G. Vishe, M.D., Evansville, Ind.: Delegate, G. C. Dunlevy, M.D. Organized 1894. Not incorporated. Meetings monthly. Members, 15; admitted last year, 4. Annual dues, $2.00.

Northern Indiana and Southern Michigan Homœopathic Medical Association. The annual meeting is held at different places, generally at Elkhart, Ind., on the first Tuesday in April. President, I. O. Buchtel, M.D., Auburn, Ind.; Secretary, H. A. Mumaw, M.D., Elkhart, Ind. Organized 1891. Not incorporated. Members, 40; admitted last year, 6; died last year, 1. Annual dues, $1.00.

Iowa.

Hahnemann Medical Association of Iowa. The annual meeting is held in Des Moines and Sioux City, alternately, on the first Tuesday in May. President, P. E. Triem, M.D., Manchester, Ia.; Secretary, Theodore L. Hazard, M.D., Iowa City, Ia.; Delegates, A. P. Hanchett, M.D., F. Becker, M.D., C. W. Eaton, M.D., J. Herman, M.D., P. E. Triem, M.D., Nellie Harris, M.D., C. H. Cogswell, M.D. Organized 1870. Incorporated 1873. Members, 145; admitted last year, 14; died last year, 2. Annual dues, $2.00.

Central Homœopathic Association of Iowa. The annual meeting is held in Cedar Rapids on the third Wednesday in July. President, C. E. Walters, M.D., Cedar Rapids, Ia.; Secretary, A. L. Pollard, M.D., Iowa City, Ia.; Delegate, W. A. Hubbard, M.D. Organized 1879. Not incorporated. Meetings on call. Members, 30; admitted last year, 2; died last year, 1. The meetings are well attended and are very interesting.

Des Moines Homœopathic Medical Society. The annual meeting is held in Des Moines on the first Monday in January. President, George Royal, M.D., 405 Walnut Street, Des Moines, Ia.; Secretary, William Woodburn, M.D., 609 Walnut Street, Des Moines, Ia.; Delegate, William Woodburn, M.D. Organized 1883. Not incorporated. Meetings monthly. Members, 16; admitted last year, 2; died last year, 1. Has published a number of papers in the journals.

Northeastern Iowa Homœopathic Medical Society.

Sioux City Homœopathic Medical Association. The annual meeting is held in Sioux City on the first Tuesday in January. President, T. F. H. Spreng, M.D., Sioux City, Ia.; Secretary, A. L. Day, Sioux City, Ia.; Delegates, T. F. H. Spreng, M.D., J. L. Hanchett, M.D. Organized 1889. Not incorporated. Meetings monthly. Members, 10; admitted last year, 2. Annual dues, $2.00.

Kansas.

Homœopathic Medical Society of the State of Kansas. The annual meeting is held in different places on the first Wednesday in May. President, E. W. Boardman, M.D., Parsons, Kan.; Secretary, Edward Bumgardner, M.D., Lawrence, Kan.; Delegate, C. F. Menninger, M.D. Organized 1868. Incorporated 1871. Members, 144; admitted last year, 8; died last year, 1. Annual dues, $1.00.

Shawnee County Homœopathic Medical Society.

Kentucky.

Kentucky State Homœopathic Medical Society. The annual meeting is held in different places on the second Tuesday in May. President, Allison Clokey, M.D., Second and Chestnut Streets, Louisville, Ky.; Secretary, H. S. Keller, M.D., Frankfort, Ky.; Delegate, Allison Clokey, M.D. Organized 1886. Incorporated 1888. Members, 52; admitted last year, 3. Annual dues, $2.00.

Louisiana.

Hahnemann Medical Association of Louisiana. The annual meeting is held in New Orleans. President, C. J. Lopez, M.D., New Orleans, La.; Secretary, Charles R. Mayer, M.D., 1032 St. Charles Avenue, New Orleans, La. Delegates, Charles R. Mayer, M.D., Gayle Aiken, M.D. Organized 1882. Not incorporated. Meetings monthly. Members, 19; died last year 1. Annual dues, $3.00.

Maine.

Maine Homœopathic Medical Society. The annual meeting is held in different cities on the first Tuesday in June. President, Will S. Thompson, M.D., Augusta, Me.; Secretary, Cora M. Johnson, M.D., Skowhegan, Me.; Delegate, Mary F. Cushman, M.D. Organized 1867. Incorporated 1867. Members, 69; admitted, last year, 1; died last year, 1. Annual dues, $2.00. Publishes its annual *Transactions.*

Maryland.

Maryland Homœopathic Medical Society. The annual meeting is held in Baltimore on the second Tuesday in April. President, Charles F. Goodell, M.D., Frederick City, Md.; Secretary, William Dulaney Thomas, M.D., 611 North Carrollton Avenue, Baltimore, Md.; Delegates, James S. Barnard, M.D., Eldridge C. Price, M.D. Organized 1875. Incorporated 1875. Members, 61; admitted last year, 10. Annual dues, $2.00.

Homœopathic Clinical Society of Maryland and District of Columbia, Maryland Branch. The annual meeting is held in Baltimore on the second Thursday in April. President, L. R. Palmer, M.D., 1025 Madison Avenue, Baltimore, Md.; Secretary, William M. Panebaker, M.D., 1103 Linden Avenue, Baltimore, Md.; Delegate, William M. Panebaker, M.D. Organized 1890. Not incorporated. Meetings monthly. Members, 40; admitted last year, 10; died last year, 1. Annual dues, $1.00.

Medical Investigation Club of Baltimore. The annual meeting is held in Baltimore. The President is chosen at each meeting. Secretary, Eldridge C. Price, M.D., 1012 Madison Avenue, Baltimore, Md.; Delegate, Eldridge C. Price. Organized 1881. Not incorporated. Meetings monthly. Members, 5.

Massachusetts.

Massachusetts Homœopathic Medical Society. The annual meeting is held in Boston on the second Wednesday in April. President, Frederick B. Percy, M.D., Brookline, Mass.; Secretary, Frank C. Richardson, M.D., 601 Boylston Street, Boston, Mass.; Delegates, I. Tisdale Talbot, M.D., Conrad Wesselhoeft, M.D, George E. Percy, M.D., John P. Sutherland, M.D., J. H. Sherman, M.D., J. Wilkinson Clapp, M.D. Organized 1840. Incorporated 1856. Meetings semi-annually. Members, 312; admitted last year, 15; died last year, 3. Dues, $5.00. Publishes its annual *Transactions* in the *New England Medical Gazette*.

Alumni Association of the Boston University School of Medicine. The annual meeting is held in Boston on Commencement Day. President, George H. Earle, M.D., 18 Huntingdon Avenue, Boston, Mass.; Secretary, Charles H. Thomas, M.D, 427 Broadway, Cambridge, Mass.; Delegate, George H. Earle, M.D. Organized 1878. Not incorporated. Members, 631; admitted last year, 32; died last year, 6. Publishes the *Bulletin of Medical Instruction*.

Boston Homœopathic Medical Society. The annual meeting is held in Boston on the first Thursday in January. President, William J. Winn, M.D., Massachusetts Avenue, corner Dana Street, Cambridge, Mass.; Secretary, J. Emmons Briggs, M.D., 240 Massachusetts Avenue, Boston, Mass.; Delegate, William J. Winn, M.D. Organized 1840. Incorporated 1856. Meetings monthly. Members, 241; admitted last year, 29; died last year, 3. Dues, $2.00. Has published the *Year Book* and articles in the *New England Medical Gazette*.

Essex County Homœopathic Medical Society.

Massachusetts Surgical and Gynæcological Society. The annual meeting is held in Boston on the second Wednesday in December. President, J. H. Sherman, M.D., 534 Broadway, South Boston, Mass.; Secretary, N. H. Houghton, M.D., 544 Columbus Avenue, Boston, Mass.; Delegate, H. A. Whitmarsh, M.D. Organized 1877. Not incorporated. Meetings semi-annually. Members, 207; admitted last year, 17; died last year, 4. Annual dues, $2.00.

Homœopathic Medical Society of Western Massachusetts. The annual meeting is held in Springfield on the third Wednesday in March. President, J. H. Carmichael, M.D., Springfield, Mass.; Secretary, Elmer H. Copeland, M.D., 70 Elm Street, Northampton, Mass. Organized 1877. Not incorporated. Meetings quarterly. Members, 56; admitted last year, 8. Annual dues, $1.00. Publishes the proceedings of the meetings in the *New England Medical Gazette.*

Worcester County Homœopathic Medical Society. The annual meeting is held in Worcester on the second Wednesday in November. President, Carl Caisand, M.D., 2 Charlotte Street, Worcester, Mass.; Secretary, Amanda C. Bray, M.D., 4 Wallington Street, Worcester, Mass.; Delegate, J. P. Rand, M.D. Organized 1866. Not incorporated. Meetings quarterly. Members, 67; admitted last year, 5; died last year, 1. Annual dues, $1.00.

Hughes Medical Club. The annual meeting is held in Boston, on the fourth Monday in May. The President is chosen at each meeting; Secretary, Frederick D. Stackpole, M.D., 24 Kenilworth Street, Boston, Mass. Organized 1878. Not incorporated. Meetings monthly. Members, 16; admitted last year, 2, honorary.

Lowell Hahnemann Club. The annual meeting is held in Lowell, on the third Tuesday in November. President, Frederick A. Warner, M.D., 56 Kirk Street, Lowell, Mass.; Secretary, Nellie W. Stephenson, M.D., 49 Kirk Street, Lowell, Mass.; Delegate, H. M. Hunter, M.D. Organized 1881. Not incorporated. Meetings monthly. Members, 12; admitted last year, 2. Annual dues, $2.00.

Michigan.

Homœopathic Society of the State of Michigan. The annual meeting is held in Detroit on the third Tuesday in May. President, D. A. MacLachlan, M.D., 6 Adams Avenue, West Detroit, Mich.; Secretary, Roy S. Copeland, M.D., Post-Office Building, Ann Arbor, Mich.; Delegate, Oscar LeSeure, M.D. Organized 1869. Incorporated 1869. Members, 140; admitted last year, 10. Annual dues, $2.00.

Alumni Association of the Homœopathic College in the University of Michigan. The annual meeting is held in Ann Arbor, Mich., on Commencement Day.

Homœopathic Medical Society of Southwestern Michigan. The annual meeting is held in different places on the first Tuesday in February. President, A. B. Cornell, M.D., Kalamazoo, Mich.; Secretary, Nancy B. Sherman, M.D., Kalamazoo, Mich.; Delegate, E. A. Balyeat, M.D. Organized 1886. Not incorporated. Meetings bi-monthly. Members, 25.

Saginaw Valley Homœopathic Association. President, Harvey Gilbert, M.D., Bay City, Mich. The annual meeting is held in Bay City on the second Tuesday in December.

Detroit Homœopathic Practitioners' Society. The annual meeting is held in Detroit on the first Thursday in May. President, Stephen H. Knight, M.D., 14 Willis Avenue, West Detroit, Mich.; Secretary, R. Milton Richards, M.D., 25 Washington Avenue, Detroit, Mich.; Delegate, Rollin H. Stevens, M.D. Organized 1894. Not incorporated. Meetings monthly. Members, 16; admitted last year, 1. Annual dues, $1.00.

Minnesota.

Minnesota State Homœopathic Institute. The annual meeting is held in dif-

ferent places on the third Tuesday in May. President, B. H. Ogden, M.D., Germania Bank Building, St. Paul, Minn.; Secretary, Henry C. Aldrich, M.D., Medical Block, Minneapolis, Minn.; Delegate, Henry C. Aldrich. Organized 1867. Meetings on call. Members, 90; admitted last year, 14. Annual dues, $2.00.

Northwestern Surgical Academy of Homœopathic Physicians. The annual meeting is held either in St. Paul or Minneapolis in January. President, A. E. Higbee, M.D., Masonic Temple, Minneapolis, Minn.; Secretary, W. A. Beach, M.D., St. Paul, Minn.; Delegate, Henry C. Aldrich, M.D. Organized 1894. Not incorporated. Meetings semi-annually. Members, 30; admitted last year, 6. Annual dues, $1.00.

St. Paul Society of Homœopathic Medicine and Surgery. The annual meeting is held in St. Paul on the second Monday in October. President, Arthur M. Eastman, M.D., 186 Summit Avenue, St. Paul, Minn.; Secretary, Oscar H. Hall, M.D., 299 Endicott Arcade, St. Paul, Minn.; Delegates, Chester G. Higbee, M.D., W. S. Briggs, M.D. Organized 1894. Not incorporated. Meetings monthly. Members, 26; admitted last year, 6; died last year, 1. Annual dues, $1.00.

Missouri.

Missouri Institute of Homœopathy. The annual meeting is held in different places on the third Tuesday in April.

Missouri Valley Homœopathic Medical Association. The annual meeting is held in different places, in October. President, Moses T. Runnels, M.D., 912 Walnut Street, Kansas City, Mo.; Secretary, W. A. Humphrey, M.D., Plattsmouth, Neb.; Delegates, Moses T. Runnels, M.D., D. A. Foote, M.D., David A. Strickler, M.D. Organized 1894. Not incorporated. Meetings semi-annually. Members, 95; admitted last year, 60. Annual dues, $1.00. Has published its *Transactions* and a Constitution and By-Laws.

St. Louis Homœopathic Medical Society. The annual meeting is held in St. Louis, on the first Saturday in April. President, C. H. Goodman, M.D., 3329 Washington Avenue, St. Louis, Mo.; Secretary, Lizzie Gray Gutherz, M.D., 3600 Olive Street, St. Louis, Mo.; Delegates, L. C. McElwee, M.D., T. Griswold Comstock, M.D. Organized 1888. Incorporated 1888. Meetings semi-monthly. Members, 58; admitted last year, 8. Annual dues, $2.00.

Hahnemann Club of St. Louis. The annual meeting is held in St. Louis in January. The President is chosen at each meeting; Secretary, James A. Campbell, M.D., 1729 Washington Avenue, St. Louis, Mo.; Delegate, James A. Campbell, M.D. Organized 1873. Not incorporated. Meetings semi-monthly. Members, 11.

Nebraska.

Nebraska State Homœopathic Medical Society. The annual meeting is held in Omaha and Lincoln alternately on the second Tuesday in June. President, R. W. Connell, M.D., Omaha, Neb.; Secretary, C. Van Dyck Bastin, M.D., Kearney, Neb.; Delegates, W. H. Hanchett, M.D., O. S. Wood, M.D., Benjamin F. Bailey, M.D. Organized 1873. Incorporated 1883. Members, 100; admitted last year, 7. Annual dues, $1.00.

Omaha Homœopathic Medical Society. The annual meeting is held in Omaha

on the third Thursday in January. President, H. P. Holmes, M.D., Douglass Block, Omaha, Neb.; Secretary, J. E. Mann, M.D., 200 Paxton Block, Omaha, Neb. Organized 1885. Not incorporated. Meetings monthly. Members, 36; admitted last year, 1. Annual dues, $1.00. The society is very urgent that the Institute should meet in Omaha in 1898.

Western Hahnemann Club of Omaha. The annual meeting is held in Omaha on the third Wednesday in May. The President is chosen at each meeting; Secretary, C. G. Sprague, M.D., 1701 Capitol Avenue, Omaha, Neb.; Delegates, O. S. Wood, M.D., A. P. Hanchett, M.D. Organized 1893. Not incorporated. Meetings semi-monthly. Members, 12. The Western Hahnemann Club was formed for the purpose of self-cultivation among its members, looking towards a pure Homœopathy and observance of the principles of Hahnemann.

New Hampshire.

Homœopathic Medical Society of the State of New Hampshire. The annual meeting is held in Concord on the third Wednesday in June.

New Jersey.

New Jersey Homœopathic Medical Society. The annual meeting is held alternately in Trenton and Newark. President, M. F. Middleton, M.D., Camden, N. J.; Secretary, C. Herbert Church, M.D., Nutley, N. J.; Delegates, Frank P. McKinstry, M.D., T. Y. Kinne, M.D. Organized 1854. Incorporated 1870. Meetings semi-annually. Members, 208; admitted last year, 17. Annual dues, $2.00. Publishes its *Transactions*.

West Jersey Homœopathic Medical Society. The annual meeting is held in Camden on the third Wednesday in May. President, T. E. Parker, M.D., Woodbury, N. J.; Secretary, Wallace McGeorge, M.D., 521 Broadway, Camden, N. J.; Delegates, M. D. Youngman, M.D., E. M. Howard, M.D. Organized 1869. Not incorporated. Meetings quarterly. Members, 51; admitted last year, 2; died last year, 2. Annual dues, $2.00.

Chiron Medical Club. The annual meeting is held in June. The President is chosen at each meeting; Secretary, E. D. G. Conkling, M.D., 224 Belleville Avenue, Newark, N. J. Organized 1894. Not incorporated. Meetings monthly. Members, 13; admitted last year, 5. Annual dues, $3.00.

Communipaw Medical Club. President, Eugene H. Porter, M.D., 181 West Seventy-third Street, New York City; Secretary, James Hoffman, M.D., 461 Jersey Avenue, Jersey City, N. J.; Delegate, James Hoffman, M.D. Organized 1883. Not incorporated. Meetings bi-monthly.

Machaon Club of Jersey City. The annual meeting is held in Jersey City in February. President, C. E. Putnam, M.D., 83 Sip Avenue, Jersey City, N. J.; Secretary, Z. P. Fletcher, M.D., 23 Cottage Street, Jersey City, N. J. Organized 1893. Not incorporated. Meetings monthly. Members, 15; admitted last year, 1. Annual dues, $1.00.

New Jersey Medical Club. The annual meeting is held in Newark on the third Wednesday in March. President, Laban Dennis, M.D., 30 Central Avenue, Newark, N. J.; Secretary, C. B. Holmes, M.D., Rahway, N. J.; Delegate, Laban Dennis, M.D.

New York.

Homœopathic Medical Society of the State of New York. The annual meeting is held in Albany on the first Tuesday in February. President, Edwin H. Wolcott, M.D., 57 South Union Street, Rochester, N. Y.; Secretary, John L. Moffatt, M.D., 17 Schermerhorn Street, Brooklyn, N. Y.; Delegates, J. M. Lee, M.D., Eugene H. Porter, M.D., Edwin H. Wolcott, M.D. Organized 1850. Not incorporated. Meetings semi-annually. Members, 515; admitted last year, 7; died last year, 5. Annual dues, $3.00. Publishes its *Transactions* and a Directory of the Homœopathic physicians in the State of New York.

Alumni Association of the New York Medical College. The annual meeting is held in New York City on Commencement Day. President, Frank H. Boynton, M.D., 36 West Fiftieth Street, New York City; Secretary, John W. Dowling, M.D., 41 West Forty-fifth Street, New York City. Organized 1855. Not incorporated. Members. 550. Annual dues, $1.00.

Alumni Association of the New York Medical College and Hospital for Women. The annual meeting is held in New York City on Commencement Day. President, Rita Dunlevy, M.D., 328 West Fifty-seventh Street, New York City; Secretary, Emily Charles, M.D., 51 West One Hundred and Twenty-seventh Street, New York City. Organized 1874. Not incorporated. Meetings bi-monthly. Members, 272; admitted last year, 10. Annual dues, $1.00.

Alumni Association of the Ward's Island and Metropolitan Hospitals. President, Bukk G. Carleton, M.D., 75 West Fiftieth Street, New York City; Secretary, George Taylor Stewart, M.D., Metropolitan Hospital, Blackwell's Island, New York City. Organized 1896. Not incorporated. Annual dues, $1.00.

Albany County Homœopathic Medical Society. The annual meeting is held in Albany on the second Tuesday in January.

Broome County Homœopathic Medical Society. The annual meeting is held in Binghamton on the third Wednesday in June. President, C. T. Haines, M.D., Binghamton, N. Y.; Secretary, K. C. Fiske, M.D., 314 Chenango Street, Binghamton, N. Y.; Delegate, K. C. Fiske, M.D. Organized 1863. Incorporated 1882. Meetings monthly. Members, 23; admitted last year, 1. Annual dues, $1.00.

Chenango County Homœopathic Medical Society. The annual meeting is held in Norwich on the third Tuesday in January. President, R. E. Miller, M.D., Oxford, N. Y.; Secretary, S. J. Fulton, M.D., Norwich, N. Y.; Delegate, George W. Wilcox, M.D. Organized 1871. Incorporated 1872. Meetings semi-annually. Members, 7; admitted last year, 2. Dues, $1.00.

Columbia and Greene Counties Homœopathic Medical Society. The annual meeting is held in Hudson on the second Wednesday in October. Society discontinued.

Central New York Homœopathic Medical Society. The annual meeting is held in Syracuse in September. President, E. B. Nash, M.D., Cortland, N. Y.; Secretary, S. L. Guild-Leggett, M.D., 329 James Street, Syracuse, N. Y.; Delegate, S. L. Guild-Leggett, M.D. Organized 1865. Incorporated 1866. Meetings semi-annually. Members, 40. Annual dues, $1.00. Has published its *Transactions*.

Dutchess County Homœopathic Medical Society. The annual meeting is held in Poughkeepsie on the third Tuesday in October. President, William Baxter,

M.D., Wappinger's Falls, N. Y.; Secretary, Anna C. Howland, M.D., 16 South Hamilton Street, Poughkeepsie, N. Y.; Delegate, John H. Otis, M.D. Organized 1860. Incorporated 1868. Meetings semi-annually. Members, 11; admitted last year, 1. Annual dues, $1.00. Have hard work to keep alive.

The Hahnemann Association. The annual meeting is held in New York City in November. President, Martin Deschere, M.D., 334 West Fifty-eighth Street, New York City; Secretary, Herbert D. Schenck, M.D., 241 McDonough Street, Brooklyn, N. Y.; Delegate, T. Franklin Smith, M.D. Organized 1893. Not incorporated. Meetings on call. Members, 400; admitted last year, 200.

Homœopathic Hospital Association of Brooklyn.

Homœopathic Medical Society of the County of Kings. The annual meeting is held in Brooklyn on the second Tuesday in January. President, H. J Pierson, M.D., 438 Greene Avenue, Brooklyn, N. Y.; Secretary, W. S. Rink, M.D., 295 Halsey Street, Brooklyn, N. Y. Organized 1857. Incorporated 1857. Meetings monthly. Members, 133; admitted last year, 7; died last year, 2. Annual dues, $2.00.

Homœopathic Medical Society of the County of New York. The annual meeting is held in New York on the second Thursday in December. President, Charles Deady, M D, 110 West Forty-eighth Street, New York City; Secretary, H. Worthington Paige, M.D, 256 W. Fifty-seventh Street, New York City; Delegates, Eugene H. Porter, M.D., Charles McDowell, M.D., Charles Deady, M.D., L. L. Danforth, M.D. Organized 1857. Incorporated 1858. Meetings monthly. Members, 279; admitted last year, 18; died last year, 1. Annual dues, $3.00. Publishes its *Proceedings* in various journals, also a directory of its members.

Interstate Homœopathic Medical Association. The annual meeting is held in Binghamton, N. Y., on the second Tuesday in April. President, J. W. Cooledge, M D., Scranton, Pa.; Secretary, Charles S Winters, M.D., 122 Court Street, Binghamton, N. Y; Delegate, E. E Snyder, M.D. Organized 1894. Not incorporated. Meetings semi-annually. Members, 58; admitted last year, 2. Annual dues, $2.00. Published a paper, "Opticians, Their Uses and Abuses," by J. S. Kirkendall, M.D., Ithaca, N. Y.

Jamestown Homœopathic Medical Society. The annual meeting is held in Jamestown on the second Tuesday in January. President, A. F. Ward, M.D., Jamestown, N. Y.; Secretary, A B. Rice, M.D., Jamestown, N. Y.; Delegate, Francis D. Ormes, M.D. Organized 1874. Not incorporated. Meetings monthly. Members, 10; admitted last year, 1. Dues as needed.

Jefferson County Homœopathic Medical Society. The annual meeting is held in Watertown on the third Wednesday in November.

Livingston County Homœopathic Medical Society. Annual meeting is held in Danville on the second Tuesday in June. President, J. M. McKenzie, M.D., Lima, N. Y.; Secretary, B. P. Andrews, M.D., Danville, N. Y.; Delegate, B. P. Andrews, M.D. Society discontinued.

Homœopathic Medical Society of Madison County. Annual meeting is held in Oneida, on the fourth Tuesday of June. President, E. C. Bass, M.D., Cazenovia, N. Y.; Secretary, J. T. Wallace, M.D., Oneida, N. Y. Organized 1865. Not incorporated. Meetings semi-annually. Members, 10; died last year, 1.

Medico-Chirurgical Society of Central New York. The annual meeting is held in Syracuse, in June. President, W. H. Nickelson, M.D., Adams, N. Y.; Secre-

tary, E. Elmer Keeler, M.D., 423 East Jefferson Street, Syracuse, N. Y. Organized 1896. Not incorporated. Meetings semi-annually. Members, 25. Annual dues, $1.00. This society is organized for the mutual benefit of those physicians living in those counties of which Syracuse is the natural centre.

Monroe County Homœopathic Medical Society. The annual meeting is held in Rochester, on the third Tuesday in January. President, Myron H. Adams, M.D., 45 Park Avenue, Rochester, N. Y.; Secretary, Frederick R. Smith, M.D., 400 East Main Street, Rochester, N. Y.; Delegate, Frederick R. Smith, M.D. Organized 1866. Not incorporated. Meetings quarterly. Members, 45; admitted last year, 1. Annual dues, $2.00.

Montgomery County Homœopathic Medical Society. The annual meeting is held in Fonda, on the second Tuesday in January. President, E. H. Eisenberg, M.D., Gloversville, N. Y.; Secretary, L. A. Frazier, M.D., Amsterdam, N. Y.; Delegate, L. A. Frazier, M.D. Organized 1880. Incorporated 1881. Meetings quarterly. Members, 14; admitted last year, 2. Annual dues, $1.00.

New York Pædological Society, Homœopathic. The annual meeting is held in New York in October.

Oneida and Herkimer Counties Homœopathic Medical Society. The annual meeting is held in Utica, on the third Tuesday in October. President, C. Gray Capron, M.D., 236 Genesee Street, Utica, N. Y.; Secretary, N. C. Scudder, M.D., Rome, N. Y.; Delegates, F. F. Laird, M.D., C. Gray Capron, M.D. Organized 1857. Incorporated 1861. Meetings quarterly. Members, 23; admitted last year, 1; died last year, 1. Annual dues, $1.00.

Onondaga County Homœopathic Medical Society. The annual meeting is held in Syracuse on the first Tuesday in May. President, B. W. Sherwood, M.D., Syracuse, N. Y.; Secretary, W. C. Du Boise, M.D., Syracuse, N. Y.; Delegate, E. Olin Kinne, M.D. Organized 1863. Not incorporated. Meetings monthly. Members, 26; admitted last year, 2. Annual dues, $1.00.

Ontario County Homœopathic Medical Society. The annual meeting is held in Canandaigua on the third Wednesday in October. President, James C. Knapp, M.D., Geneva, N. Y.; Secretary, C. T. Mitchell, M.D., Canandaigua, N. Y.; Delegate, C. T. Mitchell, M.D.

Oswego County Homœopathic Medical Society. The annual meeting is held in Oswego on the second Tuesday in June. President, T. D. Storr, M.D., Mexico, N. Y.; Secretary, L. B. Richards, M.D., Oswego, N. Y. Organized 1861. Not incorporated. Meetings semi-annually. Members, 15. Annual dues, $1.00.

Seneca County Homœopathic Medical Society. The annual meeting is held in Waterloo on the first Tuesday in October. President, C. M. Wetherlow, M.D., Seneca Falls, N. Y.; Secretary, O. W. Peterson, M.D., Waterloo, N. Y.; Delegate, O. W. Peterson, M.D. Organized 1872. Incorporated 1873. Meetings semi-annually. Members, 7. Annual dues, $1.00.

Southern Tier Homœopathic Medical Society. The annual meeting is held in Corning on the third Tuesday in January. President, E. H. Noble, M.D., Elmira, N. Y.; Secretary, George T. Hawley, M.D., Corning, N. Y. Organized 1874. Incorporated 1878. Meetings quarterly. Members, 22; admitted last year, 1. Annual dues, $1.00.

Wayne County Homœopathic Medical Society. The annual meeting is held in different places on the first Tuesday in June. President, W. L. Hartman; M.D.,

Clyde, N. Y.; Secretary, W. H. Sweeting, M.D., Savannah, N. Y. Organized 1865. Not incorporated. Meetings quarterly. Members, 12. Annual dues, $1.00.

Westchester County Homœopathic Medical Society. The annual meeting is held in Yonkers on the last Wednesday in January. President, E. V. Swift, M.D., Pleasantville, N. Y.; Secretary, Russell P. Fay, M.D., 80 Warburton Avenue, Yonkers, N. Y.; Delegate, Robert N. Flagg, M.D. Organized 1865. Incorporated 1865. Meetings semi-annually. Members, 31; admitted last year, 1. Annual dues, $1.00.

Western New York Homœopathic Medical Society. The annual meeting is held in Buffalo or Rochester on the second Tuesday in April. President, C. E. Walker, M.D., West Henrietta, N. Y.; Secretary, W. H. Hodge, M.D., Niagara Falls, N. Y.; Delegate, W. H. Hodge, M.D. Organized 1885. Not incorporated. Meetings quarterly. Members, 135; admitted last year, 7. Annual dues, $1.00. Publishes a list of its members and officers.

The Brooklyn Hahnemannian Union. The President is chosen at each meeting. Secretary, Stuart Close, M.D., 641 Willoughby Avenue, Brooklyn, N. Y. Organized 1896. Not incorporated. Meetings monthly. Members, 12. This is a local union for the study and discussion of the higher phases of the art of healing.

Carroll Dunham Club of New York. The annual meeting is held in New York on the first Tuesday in December. The President is chosen at each meeting. Secretary, Joseph F. Land, M.D., 130 West One Hundred and Twenty-sixth Street, New York City; Delegate, T. Franklin Smith, M.D. Meetings monthly. Members, 8.

Chiron Club of New York. The annual meeting is held in New York City in December. President, H. B. Minton, M.D., 165 Joralemon Street, Brooklyn, N. Y.; Secretary, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Organized 1886. Not incorporated. Meetings monthly. Members, 18. Dues nominal.

Jahr Club of New York. The annual meeting is held in New York on the first Monday in November. President, J. M. Schley, M.D., 1 East Forty-second Street, New York City; Secretary, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Organized 1876. Not incorporated. Meetings monthly. Members, 12.

Meissen Club of New York. The annual meeting is held in New York on the third Friday in June. President, William Ide Pierce, M.D., 64 West One Hundred and Twenty-sixth Street, New York City; Secretary, C. H. Helfrich, M.D., 158 West Forty-seventh Street, New York City. Organized 1890. Not incorporated. Meetings monthly. Members, 25; died last year, 1. Annual dues, $1.00.

New York Homœopathic Union. The annual meeting is held in New York on the first Thursday in January. President, Edmund Carleton, M.D., 62 West Forty-ninth Street, New York City; Secretary, Emma D. Wilcox, M.D., 226 West One Hundred and Fourth Street, New York City. Organized 1888. Not incorporated. Meetings monthly. Members, 40. Finished reading the *Organon* and began the *Chronic Diseases*. Some of the discussions have been reported in the *Homœopathic Physician*.

New York Materia Medica Society. The annual meeting is held in New York on the third Wednesday in December. President, Martin Deschere, M.D., 334 West Fifty-eighth Street, New York City; Secretary, Charles Ver Nooy, M.D, 148 West Sixty-fourth Street, New York City; Delegate, Martin Deschere, M D. Organized 1891. Not incorporated. Meetings monthly. Members, 106; admitted last year, 5. Dues, $2.00.

Unanimous Club of New York. The annual meeting is held in New York on the last Monday in December. President is chosen at each meeting. Secretary, John B. Garrison, M.D, 111 East Seventieth Street, New York City. Organized 1893. Not incorporated. Meetings quarterly. Members, 19; admitted last year, 5. Annual dues, $20.00.

Farrington Medical Club of Watertown. The annual meeting is held in Watertown on the second Wednesday in November. President, W. T. Laird, M D, Watertown, N. Y.; Secretary, A. D. Chattaway, M.D., Watertown, N Y. Organized 1889. Not incorporated. Meetings monthly. Members, 6. Annual dues, $1.00.

Ohio.

Homœopathic Medical Society of the State of Ohio. The annual meeting is held in different places on the second Tuesday in May. President, W. A Phillips, M.D., 80 Euclid Avenue, Cleveland, O.; Secretary, A. C. Roll, M.D., 913 Huron Street Toledo, O.; Delegates, Thomas M. Stewart, M.D., M. P. Hunt, M.D, D H. Beckwith, M.D. Organized 1864. Incorporated 1878. Members, 209; admitted last year, 33; died last year, 4. Annual dues, $2.00. Publishes its annual *Transactions*.

Alumni Association of Pulte Medical College. The annual meeting is held in Cincinnati on Commencement Day. President, J. M. Crawford, M.D., Cincinnati, O.; Secretary, H. H. Wigger, M.D., 95 Everett Street, Cincinnati, O. Organized 1878. Not incorporated. Admitted last year, 10. Dues, $1.00 quarterly.

Cincinnati Homœopathic Medical Lyceum. The annual meeting is held in Cincinnati on the first Monday in October. President, Charles E. Walton, M.D., Seventh and John Streets, Cincinnati, O.; Secretary, J. A. Davis, M.D., 723 Madison Avenue, Covington, Ky.; Delegate, Charles E. Walton, M.D. Organized 1889. Not incorporated. Meetings monthly. Members, 73; admitted last year, 3. Dues, assessments.

Cleveland Homœopathic Medical Society. President, D. H. Beckwith, M.D., 94 Dorchester Avenue, Cleveland, O.; Secretary, H. D. Bishop, M.D., Prospect Street, Cleveland, O.; Delegates, H. D. Bishop, M.D., C. M. Thurston, M.D. Organized 1895. Not incorporated. Meetings at Chamber of Commerce. Members, 60. Annual dues, $3.00. Our meetings are well attended, and a more united feeling between the physicians.

Homœopathic Medical Society of Eastern Ohio. The annual meeting is held in Akron on the third Wednesday in April.

Miami Valley Homœopathic Medical Society. The annual meeting is held in Dayton on the first Thursday in May. President, George Geohegan, M.D., Price Hill, Cincinnati, O.; Secretary, Frank Webster, M.D., 127 South Ludlow Street, Dayton, O.; Delegate, Frank Webster, M.D. Organized 1860. Incorporated 1870. Meetings semi-annually. Members, 80; admitted last year, 17.

Summit County Clinical Society. The annual meeting is held in Akron on the first Wednesday in January. President, M. W. Knapp, M.D., Akron, O.; Secretary, Katherine Kurt, M.D., 110 North Broadway, Akron, O.; Delegate, D. E. Crang, M.D. Organized 1885. Not incorporated. Meetings semi-annually. Members, 15; admitted last year, 2. Annual dues, $0.25.

Round Table Club of Cleveland. Meetings monthly.

Oregon.

Homœopathic Medical Society of the State of Oregon. The annual meeting is held in Portland on the first Tuesday in June. President, Osmon Royal, Portland, Ore.; Secretary, Byron E. Miller, M.D., Portland, Ore.; Delegates, H. B. Drake, M.D., Byron E. Miller, M.D., J. S. Bishop, M.D. Organized 1876. Incorporated 1876. Members, 45; admitted last year, 1. Annual dues, $2.00.

Pennsylvania.

Homœopathic Medical Society of the State of Pennsylvania. The annual meeting is held in Philadelphia in September. President, William W. Van Baun, M.D., 1402 Spruce Street, Philadelphia, Pa.; Secretary, E. M. Gramm, M.D., 1433 Girard Avenue, Philadelphia, Pa.; Delegates, L. H. Willard, M.D., J. G. Smedley, M.D. Organized 1866. Not incorporated. Members, 325; admitted last year, 15; died last year, 3. Annual dues, $3.00. Publishes its *Transactions*.

Alumni Association of Hahnemann College of Philadelphia. The annual meeting is held in Philadelphia on Commencement Day. President, C. B. Adams, M.D., New Haven, Conn.; Secretary, William W. Van Baun, M.D., 1402 Spruce Street, Philadelphia, Pa. Organized 1857. Not incorporated. Members, 1110; admitted last year, 83; died last year, 14.

Allegheny County Homœopathic Medical Society. The annual meeting is held in Pittsburg on the second Friday in December. President, Roland T. White, M.D., 53 Jackson Street, Allegheny, Pa.; Secretary, W. C. Cook, M.D., 327 Grand View Avenue, Pittsburg, Pa.; Delegate, W. J. Martin, M.D. Organized 1864. Not incorporated. Members, 61; admitted last year, 8; died last year, 2. Annual dues, $2.00. Publishes various papers read in its meetings, in different journals.

Erie County Homœopathic Medical Society. The annual meeting is held in Erie. President, Edward Cranch, M.D., Erie, Pa.; Secretary, E. F. Gifford, M.D., Erie, Pa.; Delegate, Edward Cranch, M.D. Organized 1891. Not incorporated. Meetings quarterly. Members 18; admitted last year, 1. Annual dues, $1.00.

Homœopathic Hospital and Dispensary Association of Erie. President, W. K. Cleveland, M.D., East Eighth Street, Erie, Pa.; Secretary, J. Louis Ireland, M.D., 204 East Twelfth Street, Erie, Pa.; Delegate, Edward Cranch, M.D. Organized 1893. Incorporated 1894. Meetings monthly. Members, 12.

Central Homœopathic Medical Society of Pennsylvania. The annual meeting is held in different places on the second Tuesday in May. President, E. H. Bigelow, M.D., Clearfield, Pa; Secretary, Dr Baker, Huntington, Pa.; Delegate, Howard Cheney, M.D. Organized 1894. Incorporated 1894. Members, 50; admitted last year, 12; died last year, 1. Annual dues, $3.00.

Homœopathic Medical Society of Chester, Montgomery and Delaware Counties. The annual meeting is held in Chester on the second Wednesday in April. President, Joseph E. Jones, M.D., West Chester, Pa ; Secretary. Isaac Crowther, M.D., 143 East Seventh Street, Chester, Pa ; Delegates, Joseph E. Jones, M.D., C. W. Perkins, M.D. Organized 1858. Not incorporated. Meetings bi-monthly. Members, 31 ; admitted last year, 1. Annual dues, $1.00. Has published various papers in the medical journals.

Homœopathic Medical Society of Germantown. The annual meeting is held in Germantown in January.

Homœopathic Medical Society of Lehigh Valley. The annual meeting is held in Easton on the first Thursday in December. President, E. D. Doolittle, M.D., Easton, Pa. ; Secretary, Howard A. Fehr, M.D., Allentown, Pa. Organized 1881. Not incorporated. Meetings bi-monthly. Members, 31 ; admitted last year, 1. Annual dues, $1.00.

Homœopathic Medical Society of Northern Pennsylvania. The annual meeting is held in different places on the third Thursday in June. President, A. A. Lindehmy, M.D., 210 South Main Avenue, Scranton, Pa.; Secretary, Anna C. Clarke, M.D., 426 Adams Avenue, Scranton, Pa.; Delegates, Anna C. Clarke, M.D., Theodore M. Johnson, M.D. Organized 1881. Not incorporated. Meetings bi-monthly. Members, 25 ; admitted last year, 2 ; died last year, 1. Dues, $2.00.

Homœopathic Medical Society of Philadelphia County. The annual meeting is held in Philadelphia on the second Thursday in June. President, Charles Mohr, M.D., 1823 Green Street, Philadelphia, Pa.; Secretary, Edward M. Gramm, M.D., 1433 Girard Avenue, Philadelphia, Pa.; Delegates, Pemberton Dudley, M.D., E. R. Snader, M.D. Organized 1836. Not incorporated. Meetings monthly. Members, 266 ; admitted last year, 30; died last year 3. Annual dues, $1.00.

Homœopathic Medical Society of the Twenty-third Ward of Philadelphia. The annual meeting is held in Philadelphia on the third Wednesday in October. President, T. L. Gramm, M.D., 846 North Broad Street, Philadelphia, Pa.; Secretary, S. G. Godshall, M.D., Edge Hill, Pa.; Delegates, W. C. Powell, M.D., J. D. Boileau, M.D. Organized 1881. Not incorporated. Meetings monthly. Members, 23; admitted last year, 3; died last year, 1. Annual dues, $1.50. Publishes its *Transactions*.

Reading Homœopathic Hospital and Dispensary Association. The annual meeting is held in Reading on the third Tuesday in June.

South Central Pennsylvania Homœopathic Medical Society. The annual meeting is held in Harrisburg in April. President, J. W. Dehoff, M.D., York, Pa.; Secretary, J. B. Spangler, M.D., Mechanicsburg, Pa. Organized 1894. Not incorporated. Meetings quarterly. Members, 26; admitted last year, 3. Annual dues, $1.00.

Organon Club of Chester. The annual meeting is held in Chester in February. President, Robert P. Mercer, M.D., 223 West Third Street, Chester, Pa.; Secretary, D. P. Maddux, M.D., 700 Madison Street, Chester, Pa.; Delegate, Robert P. Mercer, M.D. Not incorporated. Meetings monthly. Members, 13; admitted last year, 1.

Bœnninghausen Club of Philadelphia. Annual meeting is held in Philadel-

phia on the second Wednesday in November. President, Charles Brooks, M.D., 1613 North Tenth Street, Philadelphia, Pa.; Secretary, George W. Smith, M.D, 806 North Broad Street, Philadelphia, Pa. Organized 1877. Not incorporated. Meetings monthly. Members, 8. Dues, $6.00.

Hahnemann Club of Philadelphia. The annual meeting is held in Philadelphia on the second Tuesday in January. President, Bushrod W. James, M.D., Eighteenth and Green Streets, Philadelphia, Pa.; Secretary, Thomas S. Dunning, M.D., 1328 North Fifteenth Street, Philadelphia, Pa.; Delegate, B. Frank Betts, M.D. Organized 1873. Not incorporated. Meetings monthly. Members, 10. Dues by assessments. A course of lectures were given and published in 1895.

Oxford Medical Club of Philadelphia. The annual meeting is held in Philadelphia on the first Friday in January. President, E. R. Snader, M.D., 140 North Twentieth Street, Philadelphia, Pa; Secretary, Christian H. Brown, M.D., 1824 Diamond Street, Philadelphia, Pa.; Delegate, W. M. Griffith, M.D. Organized 1885. Not incorporated. Meetings monthly. Members, 14; admitted last year, 2; died last year, 1. Dues, $1.00.

Philadelphia Clinical Society. The annual meeting is held in Philadelphia in October. President, Charles M. Thomas, M.D., 1623 Arch Street, Philadelphia, Pa.; Secretary, W. H. Bigler, M D., 1524 Arch Street, Philadelphia, Pa. Organized 1880. Not incorporated. Meetings semi-monthly. Members, 1); admitted last year, 1. Annual dues, $1 00.

Philadelphia Medical Club. The annual meeting is held in Philadelphia on the first Wednesday in December. President, Edwin H. Van Deusen, M.D, 2101 Tioga Street, Philadelphia, Pa.; Secretary, Edward W. Mercer, M.D., 157 North Fifteenth Street, Philadelphia, Pa. Organized 1880. Not incorporated. Meetings monthly. Members, 11. Has published a number of papers read before the club, in the different medical journals.

A. R. Thomas Club of Philadelphia. The annual meeting is held in Philadelphia on the second Wednesday in January. President, Weston D. Bayley, M.D., 1434 Poplar Street, Philadelphia, Pa.; Secretary, Albert A. Norris, M.D., 4818 Chester Avenue, Philadelphia, Pa. Organized 1888. Not incorporated. Meetings monthly. Members, 17; admitted last year, 1.

Saturday Night Club of Microscopists. The annual meeting is held in Philadelphia on the second Saturday in January. President, Joseph C. Guernsey, M D., 1923 Chestnut Street, Philadelphia, Pa.; Secretary, Nathan Smilie, M.D., 249 East Logan Square, Philadelphia Pa Organized 1894. Not incorporated. Meetings semi-monthly. Members, 30; admitted last year, 10. Annual dues, $1.00. Have published the reports of the meetings and subjects discussed.

Trousseau Clinical Club of Philadelphia. The annual meeting is held in Philadelphia on the first Tuesday in May. President, F. M. Lawrence, M.D., 2840 Ridge Avenue, Philadelphia, Pa.; Secretary, William D. Culin, M.D., 4028 Parrish Street, Philadelphia, Pa.; Delegates, William D. Culin, M.D., F. Mortimer Lawrence, M.D. Organized 1895. Not incorporated. Meetings monthly. Members, 18; admitted last year, 2; died last year, 2. Annual dues, $6.00. Has published original papers in the different medical journals.

Homœopathic Pharmaceutical Association of Pennsylvania. The annual meeting is held in Philadelphia. President, F. J. Slough, M.D., Allentown, Pa.; Secretary, E. P. Anshutz, P. O. Box 921, Philadelphia, Pa.; Delegate, F. J.

Slough, M.D. Organized 1881. Incorporated 1881. Meetings on call. Members, 33; admitted last year, 9; died last year, 1. Dues paid by assessments.

Rhode Island.

Rhode Island State Homœopathic Medical Society. The annual meeting is held in Providence on the second Friday in January. President, Thomas H. Shipman, M.D., 234 Benefit Street, Providence, R. I.; Secretary, John H. Bennett, M.D., 142 High Street, Pawtucket, R. I.; Delegates, Robert Hall, M.D., George R. Peck, M.D. Organized 1850. Incorporated 1850. Meetings monthly. Members, 43; admitted last year, 5. Annual dues, $5.00.

South Dakota.

Homœopathic Medical Society of South Dakota. The annual meeting is held in different places on the second Thursday in July. President, G. H. Fulford, Sioux Falls, S. Dak.; Secretary, William Lowe, M.D., Madison, S. Dak.; Organized 1893. Not incorporated. Members, 45. Annual dues, $1.00.

Tennessee.

Homœopathic Medical Society of the State of Tennessee. The annual meeting is held in different places in the state on the fourth Wednesday in May. President, Douglass Caulkins, M.D., Knoxville, Tenn.; Secretary, E. James Milman, M.D., Jackson, Tenn.; Delegates, E. H. Price, M.D., Clara Plimpton, M.D. Organized 1875. Incorporated 1890. Members, 45. Annual dues, $1.00. Has published its *Transactions* and various papers in the medical journals.

Chattanooga Homœopathic Medical Society. The annual meeting is held in Chattanooga on the first Wednesday in April. President, David G. Curtis, M.D., Chattanooga, Tenn.; Secretary, W. W. French, M.D., Chattanooga, Tenn.; Delegate, E. H. Price, M.D. Organized 1888. Not incorporated. Meetings monthly. Members, 4.

Texas.

Texas Homœopathic Medical Association. The annual meeting is held in different places on the second Wednesday in May. President, Tertius Marks, M.D.; Secretary, C. F. Braden, El Paso, Texas; Delegates, P. C. Williams, M.D., M. J. Bliem, M.D. Organized 1884. Incorporated 1884. Members, 53; admitted last year, 2. Annual dues, $2.00. The Presidential address and papers read before the Association are published in the medical journals.

Utah.

Utah Homœopathic Medical Association. The annual meeting is held in Salt Lake City on the first Tuesday in May. President, Ishiah White, M.D., 29 State Street, Salt Lake City, Utah; Secretary, John T. White, M.D., 29 State Street, Salt Lake City, Utah. Organized 1892. Incorporated 1892. Members, 14. Annual dues, $1.00.

Vermont.

Vermont Homœopathic Medical Society. The annual meeting is held in Montpelier on the last Wednesday in May. President, J. F. Shattuck, M.D., Wells River, Vt.; Secretary, George I. Forbes, M.D., Burlington, Vt.; Delegate, C. A.

Gale, M.D. Organized in 1854. Incorporated 1858. Meetings semi-annually. Members, 55 active; 65 non-residents; admitted last year, 3. Annual dues, $1.00. Publishes the proceedings of the meetings with the papers and discussions in full.

Washington.

Washington State Homœopathic Medical Society. The annual meeting is held in different places on the second Tuesday in May. President, F. A. Churchill, M.D., Seattle, Wash.; Secretary, F. R. Hill, M.D., Tacoma, Wash. Organized 1889. Not incorporated. Meetings semi-annually. Members 25. Annual dues, $2.00. Has published numerous papers read at the meeting, in the *Pacific Coast Journal of Homœopathy.*

Wisconsin.

Homœopathic Medical Society of the State of Wisconsin. The annual meeting is held in different places in the state on the second Wednesday in May. President, M. L. Huntington, M.D., Darlington, Wis.; Secretary, Filip Forsbeck, M.D., Milwaukee, Wis.; Delegates, Lewis Sherman, M.D., S. J. Martin, M.D. Organized 1865. Incorporated 1865. Members, 81; admitted last year, 7; died last year, 1. Annual dues, $2.00. Has published its *Transactions.*

Milwaukee Academy of Medicine. The annual meeting is held in Milwaukee in December. President, Julian Ford, M.D., 323 Greenbush Street, Milwaukee, Wis.; Secretary, E. W. Beebe M.D., 173 Wisconsin Street, Milwaukee, Wis. Organized 1878. Not incorporated.

Virginia.

Richmond Homœopathic Clinical Club. The annual meeting is held in Richmond. President, George W. Taber, M.D., 108 West Grace Street, Richmond, Va.; Secretary, E. C. Williams, M.D., 403 East Grace Street, Richmond, Va.; Delegate, A. L. Marcy, M.D. Organized 1895. Not incorporated. Meetings monthly. Members, 5. Annual dues, $1.00.

Miscellaneous Associations.

The Meissen. The annual meeting is held at the same time and in the same place as the American Institute of Homœopathy. President, Mrs. William Tod Helmuth, 504 Fifth Avenue, New York, N. Y.; Secretary, Miss Emily F. Paine, 7 West Thirty-ninth Street, New York, N. Y. Organized 1893. Not incorporated. Members, 152; admitted last year, 39. Annual dues, $1.00.

The New England Hahnemann Association. The annual meeting is held in Boston, Mass., on the second Monday in January. President, Colonel Henry S. Russell; Secretary, I. Tisdale Talbot, M.D., 685 Boylston Street, Boston, Mass.; Delegate, I. Tisdale Talbot, M.D. Organized 1895. Incorporated 1896. Meetings January and April. Members, 480; admitted last year, 226. Annual dues, $2.00.

Homœopathic Hospitals and Institutions.

California.

Fabiola Hospital Association, Oakland. Incorporated 1877. Opened for patients 1877. Executive Officer, Mrs. S. S. B. Yule, 1315 Franklin Street, Oakland, Cal.

Number of patients last year, 506; cured, 432; relieved, 35; not relieved, 17; died, 22. Supported by public contributions and pay from private patients.

Southern California State Asylum for Insane and Inebriates, San Bernardino. Incorporated 1889. Opened for patients 1893. Executive Officer, M. B. Campbell, M.D., San Bernardino, Cal. Supported by state appropriations. Number of beds, 500.

Good Samaritan Hospital, San Diego. Incorporated 1887. Opened for patients 1839. Executive Officer, Thomas Docking, M.D., 643 Sixth Street, San Diego, Cal. Supported by voluntary contributions. This hospital is temporarily closed for want of funds.

Homœopathic Sanitarium, San Francisco. Opened for patients March, 1896. Executive Officer, C. B. Currier, M.D., 921½ Geary Street, San Francisco, Cal. Supported by pay of patients. This Institution has been opened only six months, since which time every bed, twenty in number, has been constantly occupied, and a larger institution is being planned.

San Francisco Nursery for Homeless Children. Incorporated 1892. Opened for inmates 1893. Executive Officer, Mrs. W. W. Haskell, 570 Harrison Street, San Francisco, Cal. Supported by charity and state aid. Children from birth to 14 years of age are admitted; the deaths have always been of those under 1 year of age, usually from marasmus. Number of beds, 65. Number of patients last year, 400; cured, 394; died, 6.

Colorado.

Denver Homœopathic Hospital. Incorporated 1894. Opened for patients 1895. Executive Officer, J. Wylie Anderson, M.D., 16 Steele Block, Denver, Col. Supported by the Homœopathic college, charity associations and voluntary contributions. Delegate, B. A. Wheeler, M.D. Number of beds, 20. Number of patients last year, 101; cured, 96; died, 5.

Denver Orphan Home. Incorporated 1890. Opened for inmates 1891. Executive Officer, Mrs. John McNeal, Denver, Col. Supported by voluntary contributions, associated charities and subscriptions. Delegate, S. S. Smythe, M.D. Number of patients, 100; cured, 100.

Ladies' Relief Society Home, Denver. Opened for patients 1875. Executive Officer, Julia E. Killam, Denver. Supported by associated charities and board. Delegate, C. E. Tennant, M.D. Number of beds, 35. Number of patients, 126; cured, 126.

Woman's Christian Temperance Union Day Nursery, Denver. Incorporated 1887. Opened for patients 1887. Executive Officer, Mrs. Clara Hall, 1655 High Street, Denver, Col. Supported by charity organization and other sources. Delegate, J. Wylie Anderson, M.D.

Connecticut.

Grace Homœopathic Hospital, New Haven. Incorporated 1889. Opened for patients 1892. Executive Officer, E. J. Walker, M.D., New Haven, Conn. Supported by state appropriations and patients' fees. Value of hospital property, $60,000. Number of beds, 25. Number of patients last year, 202; cured, 145; relieved, 13; not relieved, 5; died, 14.

Crest View Sanitarium, Greenwich. Opened for patients 1893. Executive

Officer, Henry M. Hitchcock, M.D., Greenwich, Conn. Supported by fees of patients. Value of hospital property, $25,000. Number of beds, 20.

Elmcroft, Enfield. Opened for patients 1890. Executive Officer, E. S. Vail, M.D., Thomsonville, Conn. Supported by fees of patients and products of farm. Value of hospital property, $25,000. Number of beds, 12. Number of patients last year, 16; cured, 9; relieved, 2; not relieved, 4; died, 1.

Grey Towers, Stamford. Executive Officer, J. Joseph Kindred, M.D., Stamford, Conn. This institution is a Physicians' Home for the private care and treatment of mental and nervous diseases, with a separate department exclusively for alcoholic and narcotic habitues. It has two departments, an Allopathic and a Homœopathic.

Stamford Hall, Stamford. Opened for patients 1891. Executive Officer, Amos J. Givens, M.D., Stamford, Conn. Supported by fees of patients. Value of hospital property, $60,000. Delegate, Amos J. Givens, M.D. Number of beds, 100. Number of patients last year, 128; cured, 123.

Delaware.

Homœopathic Hospital of Delaware, Wilmington. Incorporated 1888. Opened for patients 1888. Executive Officer, Mrs. E. W. Mendenhall, 1107 Delaware Avenue, Wilmington, Del. Supported by interest from the endowment fund, income from patients, annual contributions, special contributions and those from the Training School. Value of hospital property, $50,000. Delegate, Lewis W. Flinn, M.D.

District of Columbia.

National Homœopathic Hospital Association. Incorporated 1881. Opened for patients 1881. Executive Officer, Lewis Clephane, 1225 K Street, Washington, D. C. Supported by Congressional appropriation, Nurses' Training School, Ladies' Aid. Value of hospital property, $80,000. Number of beds, 45. Number of patients last year, 499; cured, 246; relieved, 181; not relieved 20; died, 22.

Florida.

St. Luke's Hospital, Homœopathic Department. Jacksonville. Opened for patients 1882. Executive Officer, Mrs. W. M. Bostwick, Jacksonville, Fla. Supported by contributions and pay of patients. Value of hospital property, $8000. Delegate, Henry R. Stout, M.D. Number of patients last year, 3; cured, 3.

Orphanage and Home for the Friendless, Jacksonville. Executive Officer, James M. Baker, Jacksonville, Fla Supported by voluntary contributions. Value of hospital property, $5000. Delegate, Henry R. Stout, M.D. Number of patients last year, 10; cured, 10.

Illinois.

Cook County Hospital, Homœopathic Department, Chicago. Opened for patients 1875. Supported by city appropriations. Executive Officer, John W. Streeter, M.D., 2146 Calumet Avenue, Chicago, Ill. Value of hospital property, $1,113,300. Delegate, John W. Streeter, M.D.

Hahnemann Hospital, Chicago. Incorporated 1855. Opened for patients 1870.

Executive Officer. John C. Burt Chicago, Ill. Supported by endowment fund of $40,000 and private contributions. Number of beds, 170. Value of hospital property, $150,000. Delegate, George F. Shears M.D.

Chicago Homœopathic Hospital. Incorporated 1876. Opened for patients 1876. Executive Officer, A. W. Woodward. M.D., 130 Ashland Avenue, Chicago, Ill. Supported by fees of patients and Training School. Value of hospital property, $30,000. Delegate, A. W. Woodward, M.D. Number of beds, 30. Number of patients last year, 283; cured, 252; relieved, 10; not relieved, 21; died, 21.

Baptist Hospital, Chicago. Incorporated 1892. Opened for patients 1892. Executive Officer, A. C. Cowperthwaite, M.D., 31 Washington Street, Chicago. Ill. Supported by voluntary contributions. Value of hospital property, $100,000. Delegate, A. C. Cowperthwaite, M.D. The staff consists of four Homœopathic, four Allopathic and four Eclectic physicians. Everything is perfectly harmonious. Number of beds, 75. Number of patients last year, 402; cured, 227; relieved, 103; not relieved, 14; died, 22.

Chicago Nursery and Half-Orphan Asylum. Incorporated 1875. Opened for inmates 1875. Executive Officer, Mrs. F. H. Beckwith, Chicago, Ill. Number of patients last year, 74; cured, 69.

Foundling Home, Chicago. Incorporated 1871. Opened for inmates 1871. Executive Officer, Miss Frank C. Shipman, 114 South Wood Street, Chicago, Ill. Supported by "Our Heavenly Father's Storehouse" and by voluntary contributions. This is a "Faith" institution.

Skile's Orificial Sanitarium, Chicago.

Streeter's Hospital, Chicago. Opened for patients 1888. Executive Officer, John W. Streeter, M.D., 2646 Calumet Avenue, Chicago, Ill. Supported by fees of patients. Value of hospital property, $60,000. Delegate, John W. Streeter, M.D. Number of beds, 28. Number of patients last year, 112; cured, 109; died, 3.

Mark M. Thompson Sanitarium, Chicago. Incorporated 1892. Opened for patients 1892. Executive Officer, Mark M. Thompson, M.D., 805 Monroe Street, Chicago, Ill. Supported by fees of patients. Value of hospital property, $40,000. Delegate, Mark M. Thompson, M.D. This institution is for the treatment of all medical and surgical diseases. Alcoholism and narcotism are specialties. Alcoholism not wholly Homœopathic; all other diseases strictly Homœopathic. Number of beds, 25. Number of patients last year, 120; cured, 110; relieved, 10.

Indiana.

Newland Park Sanitarium, New Albany. Opened for patients 1895. Executive Officer, G. Oscar Erni, M.D., New Albany, Ind. Supported by fees of patients. Number of beds, 10. Number of patients, 8; cured, 5; relieved, 3.

Iowa.

Homœopathic Hospital of the State University of Iowa, Iowa City. Opened for patients 1887. Executive Officer, James G. Gilchrist, M.D., 215 College Street, Iowa City, Iowa. Supported by board of patients and students' fees. Value of hospital property, $30,000. Delegate, W. H. Dickinson, M.D.

Number of patients last year, 236; cured, 131; relieved, 53; not relieved, 7; died, 2.

Home for Aged Women, Cedar Rapids. Incorporated 1888. Opened for inmates 1887. Executive Officer, C. H. Cogswell, M.D., Cedar Rapids. Supported by contributions and a few patients' fees. Value of hospital property, $3000. Delegate, C. H. Cogswell, M.D. Number of beds, 12. Number of patients, 11; cured, 4; relieved, 5; not relieved, 2; died, 2.

Home for the Friendless, Cedar Rapids. Incorporated 1886. Opened for inmates 1887. Executive Officer, Mrs. G. T. Van Vechten, Cedar Rapids, Iowa. Supported by county appropriations and voluntary contributions. Value of hospital property, $2500. Delegate, C. H. Cogswell, M.D. Number of beds, 31. Number of patients last year, 34; cured, 32; died, 2.

Woman's Christian Association Hospital, Council Bluffs. Incorporated 1894. Opened for patients 1884. Executive Officer, Mrs. George Phelps, Council Bluffs, Iowa. Supported by pay of patients, voluntary contributions and county appropriations. Value of hospital property, $20,000. Delegate, P. J. Montgomery, M.D. Number of beds, 27. Number of patients last year, 137; cured, 101; relieved, 23; not relieved, 7; died, 12.

Iowa School for the Deaf, Council Bluffs. Incorporated 1875. Opened for patients 1878. Executive Officer, Henry W. Rotherts, Council Bluffs, Iowa. Supported by state appropriations. Value of hospital property, $300,000. Delegate, A. P. Hanchett, M.D. Number of beds, 350. Number of patients last year, 160; cured, 140; relieved, 19; died, 1.

State Reform School, Eldora. Incorporated 1868. Opened for inmates 1868. Executive Officer, B. J. Miles, Eldora, Iowa. Supported by state appropriations. Value of institution property, $300,000. Number of beds, 480. Number of patients last year, 156; cured, 156.

Maryland.

Baltimore Homœopathic Sanitarium, Baltimore. Opened for patients 1893. Executive Officer, Flora A. Brewster, M.D., 1221 Madison Avenue, Baltimore. Supported by pay of patients. Value of sanitarium, $25,000. Delegate, Flora A. Brewster, M.D.

Maryland Homœopathic Hospital, Baltimore. Incorporated 1890. Opened for patients 1890. Executive Officer, James S. Barnard, M.D., 2111 St. Paul Street, Baltimore. Value of hospital property, $40,000. Supported by city appropriations and private contributions. Delegate, James S. Barnard, M.D. Number of beds, 40. Number of patients last year, 356; cured, 226; relieved, 87; not relieved, 31; died, 12.

The Gynecian and Lying-In Hospital, Baltimore. Opened for patients 1895. Executive Officer, N. W. Kneass, M D., 607 North Charles Street, Baltimore, Md. Delegate, N. W Kneass M.D.

Carroll Springs Sanitarium, Forest Glen. Incorporated 1889. Opened for patients 1890. Executive Officer, G. H. Wright, M.D., Forest Glen, Md. Supported by pay of patients. Value of hospital property, $30,000. Delegate, G. H. Wright, M.D. Number of beds, 20. Number of patients, 60; cured, 39; relieved, 12; not relieved, 9.

Massachusetts.

Massachusetts Homœopathic Hospital, Boston. Incorporated 1855. Opened for patients 1870. Executive Officer, Thomas M. Strong, M.D., East Concord Street Boston, Mass. Supported by invested funds and pay of patients Value of hospital property, $300,000. Delegate, Thomas M. Strong. M.D. Number of beds, 150. Number of patients last year, 1329; cured, 902; relieved, 200; not relieved, 61; died, 32.

Rufus S. Frost General Hospital, Chelsea. Incorporated 1889. Opened for patients 1890. Executive Officer, Thomas U. Green, M.D., Chelsea. Supported by income from invested funds, board of patients and voluntary contributions. Value of hospital property, $27,000.

Lowell General Hospital, Lowell. Incorporated 1891. Opened for patients 1893. Executive Officer, G. Forrest Martin, M.D., Lowell, Mass. Supported by endowed beds, voluntary contributions and pay of patients. Value of hospital property, $50,000. Delegate, F. A. Warner, M.D. This is not a Homœopathic, but a general hospital. The Homœopaths have six members on the staff, the Allopaths six; there are also six surgeons besides. The Homœopaths and the Allopaths have equal rights in the hospital. Number of beds, 34. Number of patients. 251; cured, 174; relieved, 34; not relieved, 15; died, 21.

Malden Hospital, Homœopathic Department, Malden. Incorporated 1891. Opened for patients 1892. Executive Officer, E. F. Bickford, Malden, Mass. Supported by investments and voluntary contributions. Value of hospital property, $70,000. Delegate, George B. Sawtelle, M.D. "This is a union hospital, equal rights being given to the two schools of medicine. As in most places, the large majority of the poor are not educated to Homœopathy, and the majority of those seeking treatment are coached by the physicians sending them to the hospital to choose Allopathic treatment. Occasionally a patient chooses Homœopathic treatment. In case of no choice, which is seldom, they are assigned by the matron in alternate order. The management is in the hands of citizens. The medical board of six, three from each school, only provide the medical and surgical service. Each branch of the board makes its own appointments to the staff, which are made formal by the full board. The work of the staff is separate and distinct, and neither is responsible for the work of the other." Number of beds, 28. Number of patients last year, 188; cured, 111; relieved, 51; not relieved, 5; died, 21.

City Hospital of Quincy, Quincy. Incorporated 1889. Opened for patients in 1889. Executive Officer, Timothy Reed, Quincy, Mass. Supported by endowment fund, city appropriations and voluntary contributions. Value of hospital property, $25,000. Delegate, Henry C. Hallowill, M.D. This hospital is open to both schools. The hospital staff is composed of eight from the Allopathic and four from the Homœopathic. All sorts of cases are received, with the exception of contagious diseases. Number of beds, 22; number of patients last year, 197; cured, 118; relieved, 55; not relieved, 3; died, 11.

Worcester Hahnemann Hospital, Worcester. Incorporated 1896. Opened for patients, 1893. Executive Officer, John K. Warren, M.D., 68 Pleasant Street, Worcester, Mass.

Worcester Homœopathic Hospital and Dispensary Association, Worcester. Incorporated 1887. Opened for patients 1883. Executive Officer, E. A. Fisher,

M.D., Elm Street, Worcester, Mass. Supported by bequests and private contributions. Value of hospital property, $19,000. Number of patients, 1900.

Boothby Surgical Hospital, Boston. Opened for patients 1889. Executive Officer, Alonzo Boothby, M.D., 183 Worcester Square, Boston, Mass. Supported by fees of patients. Value of hospital property, $50,000. Delegate, Alonzo Boothby, M.D. Number of beds, 49; number of patients, 194; cured, 169; relieved, 16; died, 9.

Consumptives' Home, Boston. Incorporated 1871. Opened for patients 1864. Executive Officer, Rev. E. D. Mallony, 175 Huntington Avenue, Boston, Mass. Supported by voluntary contributions. Delegate, F. E. Allard, M.D.

Talitha Cumi Home of the New England Moral Reform Society, Boston. Incorporated 1846. Opened for inmates 1836. Executive Officer, Caroline E. Hastings, M.D., 160 Huntington Avenue, Boston, Mass. Supported by voluntary contributions and board of a few patients. Value of institution property, $28,500. Delegate, Julia M. Plummer, M.D. This institution is a maternity home for the shelter and reform of unmarried mothers. Patients are received weeks and months before confinement, and are kept until they are ready for work, or able to return to their friends. Number of beds, 29; patients last year, 59; cured, 59.

Ayer Home for Young Women and Children, Lowell. Executive Officer, Mrs. A. G. Rouviere, 159 Pawtucket Street, Lowell, Mass. Supported by invested funds and voluntary contributions. Delegate, G. Forrest Martin, M.D. This is not a hospital, but a home. The treatment of the sick is entirely Homœopathic. During the last year there was but one death, and that was the first one in six years. Number of beds, 50. Number of patients last year, 60; cured, 59.

Newton Hospital, Homœopathic Department, Newton. Incorporated 1881. Opened for patients 1886. Executive Officer, F. G. Curtis, M.D., Newton, Mass. Supported by city appropriations, voluntary contributions and the outside earnings of the nurses. Value of hospital property, $80,000. Delegate, Edward P. Scales, M.D. Number of beds, 75. Number of patients last year, 176; cured, 152; relieved, 10; not relieved, 8; died, 12.

Newton Nervine, West Newton. Opened for patients 1892. Executive Officer, N. Emmons Paine, M.D., West Newton, Mass. Value of hospital property, $350,000. Supported by fees of patients. Delegate, N. Emmons Paine, M.D. Number of beds, 11. Number of patients last year, 25; cured, 9; relieved, 8; not relieved, 2.

Newton Sanatorium, West Newton. Opened for patients 1894. Executive Officer, N. Emmons Paine, M.D., West Newton, Mass. Supported by fees from patients. Delegate, N. Emmons Paine, M.D. Number of beds, 20.

Westborough Insane Hospital, Westborough. Incorporated 1884. Opened for patients 188 . Executive Officer, George S Adams, M.D., Westborough, Mass. Supported by state and town appropriations and voluntary contributions. Value of asylum property, $500,000. Delegate, George S. Adams, M.D. Number of beds 575. Number of patients last year, 827; cured, 67; relieved, 61; not relieved, 40; died, 76.

Michigan.

Homœopathic Hospital of the University of Michigan, Homœopathic Department, Ann Arbor. Incorporated 1874. Opened for patients 1875. Executive

Officer, Charles Mack, M.D., Ann Arbor, Mich. Supported by state appropriations and endowment. Value of hospital property, $45,000. Delegate, D. A. MacLachlan, M.D.

The Grace Hospital, Detroit. Incorporated 1888. Opened for patients 1888. Executive Officer, A. T. Putnam, The Grace Hospital, Detroit, Mich. Supported by endowment fund, pay of patients and training school. Number of patients last year, 1023; cured, 678; relieved, 170; not relieved, 52; died, 80.

Michigan Asylum for Dangerous and Criminal Insane, Ionia. Incorporated 1883 Opened for patients 1885. Executive Officer, O. R. Long, M.D., Ionia, Mich. Supported by state and county appropriations. Value of hospital property, $180,000. Delegate, O. R. Long, M.D. Number of beds, 217. Number of patients last year, 250; cured, 16; died, 9.

Reed City Sanitarium, Reed City. Opened for patients 1895. Executive Officer, Andrew B. Spinney, M.D., Reed City, Mich. Supported by the fees of patients. Value of hospital property, $20,000. Delegate, Ernest W. Spinney, M.D. Number of beds, 50. Number of patients last year, 20; cured, 10; relieved, 8; not relieved, 2; died, 2.

Minnesota.

Homœopathic Hospital of Minneapolis. Incorporated 1881. Opened for patients 1883. Executive Officer, Mrs. A. A. Pray, Forty-fourth Avenue near Penn Avenue, Minneapolis, Minn. Supported by pay of patients, endowment of free beds and voluntary contributions. Value of hospital property, $70,000. Delegate, A. P. Williamson, M.D. The hospital has closed its doors for the present.

Fergus Falls State Hospital for Insane, Fergus Falls. Incorporated 1887. Opened for patients 1890. Executive Officer, George O. Welch, M.D., Fergus Falls, Minn. Supported by state appropriations. Value of hospital property, $600,000. Delegate, George O. Welch, M.D. Number of beds, 806. Number of patients last year, 922; cured, 94; relieved, 29; not relieved, 15; died, 41.

Maternity Hospital, Minneapolis. Incorporated 1887. Opened for patients 1886. Executive Officer, Martha G. Ripley, M.D, 24 Tenth Street, South, Minneapolis, Minn. Supported by voluntary contributions and pay of patients. Value of hospital property, $12,000. Delegate, Martha G. Ripley, M.D.

Washburne Memorial Asylum, Minneapolis. Incorporated 1883. Opened for inmates 1886. Executive Officer, Charles J. Martin, Minneapolis, Minn. Supported by bequest of C. C. Washburne, amounting to $484,000. Value of asylum property, $150,000. Delegate, George E. Ricker, M.D. This institution is in no sense a hospital. As the name indicates, it is pre-eminently a "home." Number of beds 125. Number of patients last year, 20; cured, 20.

Sheltering Arms for the Care of Orphans and Destitute Children, Minneapolis. Incorporated 1883. Opened for inmates 1883. Executive Officer, Mrs. Barton, "The Albion," St. Paul, Minn. Supported by the Episcopal churches of the state and by private donations. Number of beds, 26. Number of patients last year, 28; cured, 25; died, 3.

Church Home, St. Paul. Opened for inmates 1885. Executive Officer, Sister Annette Relf, at the "Home," St. Paul, Minn. Supported by donations and board of inmates. Delegate, Henry C. Aldrich, M.D.

Missouri.

Hall's Sanitarium, St. Joseph.

Good Samaritan Hospital and Asylum of St. Louis. Incorporated 1858. Opened for patients 1859. Executive Officer, Henry Wiebusch, 410 South Fourth Street, St. Louis, Mo. Supported by fees from patients, donations and legacies. Value of hospital property, $50,000. Delegate, W. John Harris, M.D. Number of beds, 85. Number of patients last year, 479; cured, 315; relieved, 78; not relieved, 71; died, 15.

St. Louis Children's Hospital, St. Louis. Incorporated 1879. Opened for patients 1880. Executive Officer, C. H. Goodman, M.D., 3329 Washington Avenue, St. Louis, Mo. Supported by voluntary contributions. Value of hospital property, $25,000. Delegate, T. Griswold Comstock, M.D. Number of beds, 60. Number of patients last year, 183; cured, 166; relieved, 24; not relieved, 3; died, 10.

Montana.

Haviland Hospital, White Hall. Opened for patients 1895. Executive Officer, Willis H. Haviland, M.D., White Hall, Mont. Supported by pay of patients. Value of hospital property, $3000. Delegate, Willis H. Haviland, M.D. Number of beds, 6.

New Jersey.

Galen Hall, Atlantic City. Opened for patients 1895. Executive Officer, W. H. H. Bull, M.D., Atlantic City, N. J. Supported by pay of patients. Value of hospital property, $60,000. Delegate, W. H. H. Bull, M.D.

West Jersey Homœopathic Hospital, Camden. Incorporated 1891. Opened for patients 1891. Executive Officer, William W. Knowlton, M.D., 443 Chambers Avenue, Camden, N. J. Supported by city appropriations and voluntary contributions. Value of hospital property, $10,000. Delegate, William W. Knowlton, M.D. A training school for nurses has been established, which bids fair to be a great success. Number of beds, 18. Number of patients last year, 63; cured, 60; died, 3.

Brookside Retreat, Plainfield

Trenton Homœopathic Hospital, Trenton. Incorporated 1887. Opened for patients 1889. Executive Officer, E. B. Witte, M.D., 425 East State Street, Trenton, N. J. Supported by county appropriations and voluntary contributions. Value of hospital property, $25,000. Delegate, E. B. Witte, M.D. "We expect to be in a new building within a year, and hope to have a more interesting report next year." Number of beds, 40. Number of patients last year, 142; cured, 94; relieved, 18; not relieved, 22; died, 8.

Newark Orphan Asylum, Newark.

New York.

Albany City Homœopathic Hospital and Dispensary, Albany. Incorporated 18 8. Opened for patients 1868. Executive Officer, J. W. Cox, Jr., 87 State Street, Albany, N. Y. Supported by city appropriations and voluntary contributions. Value of hospital property, $25,000. Delegate, Edward T. Cox, M.D.

Brooklyn Homœopathic Hospital, Brooklyn. Incorporated 1871. Opened for patients 1871. Executive Officer, J. A. McEachron, 109 Cumberland Street,

Brooklyn, N. Y. Supported by city appropriations, pay of patients, and voluntary contributions. Value of hospital property, $125,000. Delegate, W. H. Pierson, M.D.

Hahnemann Hospital, Brooklyn. Number of beds, 119. Number of patients last year, 1215; cured, 939; relieved, 111; not relieved, 52; died, 84.

H. Willis's Private Hospital, Brooklyn. Opened for patients 1894. Executive Officer, Harrison Willis, M.D., 695 Lafayette Avenue, Brooklyn, N. Y. Supported by pay of patients. Value of hospital property, $7000. Delegate, Harrison Willis, M.D.

Buffalo Homœopathic Hospital, Buffalo. Incorporated 1872. Opened for patients 1873. Executive Officer, Mrs C. J. North, 51 Johnson Park, Buffalo, N. Y. Supported by city and county appropriations, pay of patients and private donations Value of hospital property, $50,000. Delegate, A. R. Wright, M.D. Number of beds, 50. Number of patients last year, 447; cured, 255; relieved, 107; not relieved, 27; died, 42.

Lexington Heights Hospital, Buffalo. Incorporated 1891. Opened for patients 1890. Executive Officer, De Witt G. Wilcox, M.D, 568 Delaware Avenue, Buffalo, N. Y. Supported by pay of patients. Value of hospital property, $17,000 Delegates, De Witt G. Wilcox, M.D., D. B. Stumpf, M.D. Number of beds, 14. Number of patients last year, 102; cured, 107; relieved, 42; not relieved 8; died, 5.

Flower Hospital, New York City. Incorporated 1884. Opened for patients 1890. Executive Officer, William Tod Helmuth, M.D., 504 Fifth Avenue, New York City. Supported by the New York Homœopathic College and the Woman's Guild. Value of hospital property, $100,000. Delegate, William Tod Helmuth, M.D. Number of beds, 38. Number of patients last year, 8241.

Hahnemann Hospital, New York City. Incorporated 1869. Opened for patients 1869. Executive Officer. Samuel J. Drake, 57 Broadway, New York City. Supported by pay of patients annual subscriptions and interest on invested funds. Value of hospital property, $160,000. Delegate, T. Franklin Smith, M.D. Number of beds, 90. Number of patients last year, 542; cured, 430; relieved, 41; not relieved, 7; died, 25.

Laura Franklin Hospital for Children, New York City. Incorporated 1888. Opened for patients 1886. Executive Officer, John W. Dowling, M.D., 41 West Forty-fifth Street, New York City. Supported by endowment fund and pay of patients Value of hospital property, $100,000. Delegate, Eugene H. Porter, M.D. Number of beds, 50. Number of patients last year, 175; cured, 64; relieved, 49; not relieved, 5; died, 8.

Metropolitan Hospital and Training School for Nurses, Blackwell's Island, New York City. Opened for patients 1875. Executive Officer, George Taylor Stewart, M.D., Metropolitan Hospital Blackwell's Island, New York City. Supported by city appropriations. Delegate, T. Franklin Smith, M.D. Number of beds, 600. Number of patients last year, 7403; cured, 2474; relieved, 3825; not relieved, 189; died, 41.

Hargous Memorial Hahnemann Hospital, Rochester.

Rochester Homœopathic Hospital, Rochester. Incorporated 1887. Opened for patients 1889. Executive Officer, George A. Blackman, M.D., 167 South Avenue, Rochester, N. Y. Supported by endowed beds and voluntary contributions.

Value of hospital property, $100,000. Delegate, George A. Blackman, M.D. Number of beds, 110. Number of patients last year, 1043; cured, 671; relieved, 122; not relieved, 58; died, 53.

Utica Homœopathic Hospital, Utica. Opened for patients 1895. Executive Officer, F. F. Laird, M.D., Utica, N. Y. Supported by voluntary contributions, annual subscriptions and pay of patients. Value of hospital property, $20,000. Delegates, M. O. Terry, M.D., C. Gray Capron, M.D. Number of beds, 14. Number of patients last year, 159; cured, 120; relieved, 17; died, 2.

Albany House of Shelter, Albany. Incorporated 1869. Opened for patients 1868. Executive Officer, Robert C. James, Albany, N. Y. Supported by endowment fund and private subscriptions. Value of institution property, $45,000. Delegate, Edward G. Cox, M.D.

Brooklyn Maternity and New York State School for Training Nurses, Brooklyn. Incorporated 1871. Opened for patients 1871. Executive Officer, Mrs. M. M. Voorhees, 104 Montague Street, Brooklyn, N. Y. Supported by city appropriations, private contributions and pay of patients. Value of hospital property, $60,000. Delegate, John L. Moffatt, M.D. Number of beds, 43. Number of patients last year, 238; cured, 224; not relieved, 2; died, 2.

Memorial Hospital for Women and Children, Brooklyn. Incorporated 1883. Opened for patients 1883. Executive Officer, J. H. Burtis, Brooklyn, N. Y. Supported by city appropriations and voluntary contributions. Value of hospital property, $100,000. Delegate, Lottie A. Cort, M.D., 89 Division Avenue, Brooklyn, N. Y. "We have been occupying our new and commodious building since November, 1895." Number of beds, 70. Number of patients last year, 298; cured, 166; relieved, 87; not relieved, 21; died, 12.

St. Martha's Sanitarium and Dispensary, Brooklyn. Incorporated 1889. Opened for patients 1889. Executive Officer, Mrs. Charlotte Shiers, 361 Lewis Avenue, Brooklyn, N. Y. Supported by city appropriations, board of patients and voluntary contributions. Value of hospital property, $33,000. Delegate, Harrison Willis, M.D.

Buffalo Ophthalmic Hospital, Buffalo. Incorporated 1891. Opened for patients 1891. Executive Officer, W. H. Granturck, Buffalo, N. Y. Supported by pay of patients. Delegate, F. Park Lewis, M.D. This hospital is closed temporarily.

Collins Farm State Homœopathic Hospital for the Insane, Collins, Erie County. Not yet opened for patients.

Geneva Hygienic Institute, Geneva. Opened for patients 1854. Executive Officer, J. C. Knapp, M.D., Geneva, N. Y.

Middletown State Homœopathic Hospital, Middletown. Incorporated 1870. Opened for patients 1874. Executive Officer, Selden H. Talcott, M.D., Middletown, N. Y. Supported by state appropriations and board of patients. Value of hospital property, $1,405,000. Delegate, Selden H. Talcott, M.D. Number of beds, 1024. Number of patients last year, 1325; cured, 106; relieved, 12; not relieved, 8; died, 82.

Asylum for the Relief of Half Orphans and Destitute Children, New York City. Incorporated 1835. Opened for inmates 1835. Executive Officer, Mrs. John L. Sutherland, 17 West Thirty-seventh Street, New York City. Supported by city

appropriations and voluntary contributions. Delegate, Alvin M. Woodward, M.D. Number of patients last year, 57; cured, 57.

Baptist Home for the Aged, New York City. Incorporated 1869. Opened for inmates 1869. Executive Officer, Mrs. O. Dunham Baldwin, 33 West Thirty-eighth Street, New York City. Supported by the Baptist Churches of New York City. Delegate, Rita Dunlevy, M.D. Number of beds, 100. Number of patients, 30; cured, 10; relieved, 18; not relieved, 1; died, 1.

Chapin Home for the Aged and Infirm, New York. Incorporated 1869. Opened for patients 1872. Executive Officer, Mrs. C. M. Sherman, M.D., 114 West Forty-fourth Street, New York City. Supported by bequests and voluntary contributions. Value of institution property, $150,000. Delegate, John R. Garrison, M.D.

Helmuth House, New York City. Opened for patients 1886. Executive Officer, William Tod Helmuth, M.D., 504 Fifth Avenue, New York City. Supported by pay of patients. Value of hospital property, $125,000. Delegate, William Tod Helmuth, M.D. Number of beds, 22. Number of patients last year, 264; cured, 258; died, 6.

Hospital of Five Points House of Industry, New York City. Incorporated 1854. Opened for patients 1860. Executive Officer, William F. Barnard, 155 Worth Street, New York City. Supported by city appropriations and voluntary contributions. Value of institution property, $200,000.

Laidlaw's Private Hospital, New York City. Opened for patients 1859. Executive Officer, A. H. Laidlaw, M.D., 137 West Forty-first Street, New York City. Supported by pay of patients. Value of hospital property, $50,000. Delegate, A. H. Laidlaw, M.D. "Our cases are all chronic; no contagious diseases." Number of beds, 15. Number of patients last year, 46; cured, 37; relieved, 6; not relieved, 2; died, 1.

New York Ophthalmic Hospital, New York City. Incorporated 1852. Opened for patients 1852. Executive Officer, Charles Deady, M.D., 110 West Forty-eighth Street, New York City. Supported by rents and voluntary contributions. Value of hospital property, $125,000. Delegate, Charles Deady, M.D. Number of beds, 50.

New York Medical College and Hospital for Women, New York City. Incorporated 1863. Opened for patients 1864. Executive Officer, Mrs. H. L Bender, 64 Lexington Avenue, New York City. Supported by voluntary contributions, fees of students and board of patients. Delegate, M. Belle Brown, M.D. Number of beds, 24. Number of patients last year, 232; cured, 157; relieved, 53; not relieved, 6; died, 6.

Homer I. Ostrom's Private Surgical Hospital, New York City. Opened for patients 1896. Executive Officer, Homer I. Ostrom, M.D., 42 West Forty-eighth Street, New York City. Supported by pay of patients. Delegate, Homer I. Ostrom, M.D. The hospital is entirely private, for the treatment of surgical diseases and the performing of surgical operations, of which the large proportion are abdominal. Number of beds, 10.

West Side Clinic and Hospital, New York City. Opened for patients 1894. Executive Officer, Irving P. Sherman, M.D., 114 West Forty-fourth Street, New York City. Number of patients last year, 2174.

Glenmary, Owego. Opened for patients 1889. Executive Officer, John T.

Greenleaf, M.D., Owego, N. Y. Supported by board of patients. Value of hospital property, $50,000. Delegate, Louis D. Hyde. "This is the oldest institution of its kind in the United States." Number of beds, 50. Number of patients last year, 42; cured, 21; relieved, 4; not relieved, 3; died, 7.

Ohio.

Ohio Hospital for Women and Children, Cincinnati. Incorporated 1881. Opened for patients 1882. Executive Officer, Mrs. Biddle, Jane Street, Walnut Hill, Cincinnati, O. Supported by pay of patients and voluntary contributions. Value of hospital property, $29,000. Delegate, Ellen M. Kirk, M.D.

Cleveland Homœopathic Hospital, Cleveland. Incorporated 1867. Opened for patients 1869. Executive Officer, Harlan Pomeroy, M.D., 526 Prospect Street, Cleveland, O. Supported by pay of patients and voluntary contributions. Value of hospital property, $100,000. Delegate, Harlan Pomeroy, M.D.

Cleveland Maternity Home, Cleveland. Incorporated 1893. Opened for patients 1891. Executive Officer, Emily Barnes Robinson, M.D., Cleveland, O. Supported by voluntary contributions. Delegate, Harlan Pomeroy, M.D. Number of beds, 12. Number of patients last year, 35; cured, 35.

Dorcas Invalids' Home, Cleveland. Incorporated 1885. Opened for inmates 1884. Executive Officer, Mrs. M. J. Caton, Cleveland, Ohio. Supported by voluntary contributions. Value of institution property, $50,000. Delegate, Harlan Pomeroy, M.D. Number of beds, 32. Number of patients, 32; cured, 29; died, 3.

Huron Street Hospital, Cleveland. Incorporated 1867. Opened for patients 1868. Executive Officer, W. H. Webber, 66 Huron Street, Cleveland, Ohio. Supported by city appropriations, pay of patients and voluntary contributions. Value of hospital property, $100,000. Number of beds, 100. Number of patients, 939; cured, 791; relieved, 54; not relieved, 2; died, 41.

Toledo Hospital, Toledo. Incorporated 1876. Opened for patients 1874. Executive Officer, Mrs. A. E. Scott, 721 Ontario Street, Toledo, Ohio. Supported by pay of patients and voluntary contributions. Value of hospital property, $125,000. Number of beds, 75. Number of patients last year, 489.

Sawyer's Sanitarium, Marion. Opened for patients, 1895. Executive Officer, Charles E. Sawyer, M.D., Marion, Ohio. Supported by pay of patients. Value of hospital property, $30,000. Delegate, Charles E. Sawyer, M.D. Number of beds, 35. Number of patients last year, 65; cured, 40; relieved, 22; died, 3.

Oregon.

Portland Hospital, Portland. Opened for patients 1895. Executive Officer, A. C. Fairchild, Portland, Oregon. Supported by pay of patients, private subscriptions and voluntary contributions. Value of hospital property, $75,000. Delegate, Henry C. Jefferds, M.D. Number of beds, 60. Number of patients last year, 163; cured, 121; relieved, 25; not relieved, 85; died, 9.

Boys' and Girls' Aid Society of Oregon, Portland. Incorporated 1885. Opened for inmates 1886. Executive Officer, W. T. Gardner, Portland, Oregon. Supported by an endowment fund and state appropriations. Delegate, Byron E. Miller, M.D.

Children's Home, Portland. Incorporated 1870. Opened for inmates 1870. Executive Officer, Henry C. Jefferds, M.D., Portland. Supported by endowment fund, state appropriations and voluntary contributions. Value of institution property, $50,000. Delegate, Henry C. Jefferds, M.D. Number of beds, 100. Number of patients last year, 100; cured, 100.

Pennsylvania.

Easton Sanitarium, Easton. Opened for patients 1895. Executive Officer, James P. Pursell, M.D., Easton, Pa. Supported by pay of patients. Value of hospital property, $25,000. Delegate, James P. Pursell, M.D. Number of beds, 40. Number of patients last year, 25; cured, 17; relieved, 6; died, 2.

Children's Homœopathic Hospital of Philadelphia. Incorporated 1877. Opened for patients 1877. Executive Officer, Bushrod W. James, M.D., corner Eighteenth and Green Streets, Philadelphia. Supported by state appropriations and voluntary contributions. Value of hospital property, $75,000. Delegate, Bushrod W. James, M.D. Number of beds, 60. Number of patients last year, 247; cured, 176; relieved, 28; not relieved, 11; died, 6.

Hahnemann Medical College Hospital, Philadelphia. Incorporated 1869. Opened for patients 1871. Executive Officer, William G. Foulke, Franklin Building, Philadelphia, Pa. Supported by pay of patients, interest on investments and state appropriations. Value of hospital property, $600,000. Delegate, Charles Mohr, M.D. Number of beds, 200. Number of patients, 2029; cured, 1544; relieved, 140; not relieved, 11; died, 6.

Medical, Surgical and Maternity Hospital of the Woman's Homœopathic Association of Pennsylvania, Philadelphia. Incorporated 1882. Opened for patients 1884. Executive Officer, Mrs. A. W. Sumner, Moorestown, N. J. Supported by annual subscriptions, donations, board of patients and interest of endowment fund. Value of hospital property, $225,000. Delegate, Mary A. Cooke, M.D. "We would call attention to our total mortality rate, which is but little over four per cent., and one-third of the deaths were children under two years of age, and one-half of them were under six months of age." Number of beds, 75. Number of patients, 471; cured, 354; relieved, 37; not relieved, 15; died, 19.

St. Luke's Homœopathic Hospital, Philadelphia. Incorporated 1896. Opened for patients 1896. Executive Officer, John M. York, 1728 North Nineteenth Street, Philadelphia, Pa. Supported by private donations. Number of beds, 11. Number of patients, 128; cured, 113; relieved, 6; died, 9.

Homœopathic Medical and Surgical Hospital and Dispensary of Pittsburg. Incorporated 1866. Opened for patients 1866. Supported by pay of patients, voluntary contributions and state appropriations. Executive Officer, W. D. Slack, Pittsburg, Pa. Value of hospital property, $300,000. Delegate, J. H. McClelland, M.D. Number of beds, 150. Number of patients, 1703; cured, 1181; relieved, 262; not relieved, 68; died, 85.

Homœopathic Medical and Surgical Hospital and Dispensary, Reading. Executive Officer, W. W. Light, 35 North Sixth Street, Reading, Pa. Supported by voluntary contributions and state appropriations. Value of hospital property, $35,000. Delegate, W. F. Marks, M.D. Number of beds, 16. Number of patients, 243; cured, 208; relieved, 26; not relieved, 2; died, 7.

Walter's Sanitarium, Walter's Park. Opened for patients 1878. Executive Officer, Robert Walter, M.D., Walter's Park, Pa. Supported by pay of patients. Value of institution property, $140,000. Delegate, Robert Walter, M.D. We are conducting a sanitarium to which people come who need rest, quiet and recuperation. Number of beds, 150. Number of patients last year, 300; died, 1.

Boys' Boarding Home, Allegheny. Incorporated 1884. Opened for inmates 1887. Executive Officer, Mrs. Detwiler, 62 Anderson Street, Allegheny, Pa. Supported by board of boys and donations. Value of institution property, $30,000. Delegate, J. Richey Horner, M.D. Number of beds, 26. Number of patients, 20; cured, 20.

Christian Home for Women, Allegheny. Incorporated 1872. Opened for inmates 1872. Executive Officer, Mrs. M. H. Slater, 133 Locust Street, Allegheny, Pa. Supported by board of inmates and donations. Value of institution property, $50,000. Delegate, J. Richey Horner, M.D. Number of beds, 50. Number of patients last year, 140; cured, 134; relieved, 4; died, 2.

Convent of Benedictine Sisters, Erie. Opened for inmates 1865. Executive Officer, Mother Superior, 322 East Minot Street, Erie, Pa. Supported by voluntary contributions. Delegate, Edward Cranch, M.D. Number of beds, 10. Number of patients last year, 64; cured, 48; relieved, 10; not relieved, 4; died, 2.

Home for the Aged Poor, conducted by Little Sisters of the Poor, Pittsburg. Incorporated 1874. Opened for inmates 1884. Executive Officer, Superior of the "Little Sisters of the Poor," Premen and Rebecca Streets, Pittsburg, Pa. Supported by voluntary contributions. Value of institution property, $150,000. Delegate, L. G. Rousseau, M.D. Number of beds, 152. Number of patients last year, 45; cured, 7; relieved, 15; not relieved, 2; died, 21.

Protestant Home for Incurables, Pittsburg. Incorporated 1883. Opened for patients 1885. Executive Officer, Mrs. G. M. T. Taylor, 5533 Hays Street, Pittsburg, Pa. Supported by endowment fund and private donations. Value of hospital property, $100,000. Delegate, Joseph H. Thompson, M.D., 515 Penn Avenue, Pittsburg, Pa. Number of beds, 44. Number of patients last year, 49; relieved, 44; died, 5.

Rhode Island.

Rhode Island Homœopathic Hospital, Providence. Incorporated 1878. Opened for patients 1887. Executive Officer, Francis E. Bates, P. O. Box 389 Providence, R. I. Supported by board of patients and voluntary contributions. Value of hospital property, $34,000. Delegate, George B. Peck, M.D. Number of beds, 45. Number of patients last year, 243; cured, 208; relieved, 26; not relieved, 2; died, 7.

Wisconsin.

Pennoyer Sanitarium, Kenosha. Opened for patients 1894. Executive Officer, N. A. Pennoyer, M.D., Kenosha, Wis. Supported by pay of patients. Delegate, N. A. Pennoyer, M.D.

Milwaukee House of Mercy, Milwaukee. Incorporated 1891. Opened for inmates 1894. Executive Officer, Mrs. Julia Kurtz, Milwaukee, Wis. Supported by voluntary contributions.

Milwaukee Infants' Home, Milwaukee. Incorporated 1884. Opened for inmates 1884. Executive Officer, Mrs. George F. O'Neil, 580 Jefferson Street, Milwaukee, Wis Supported by voluntary contributions and private donations. Value of institution property, $18,000. Delegate, R. C. Brown, M.D. Number of beds, 25. Number of patients last year, 79; cured, 68; died, 11.

Milwaukee Orphan Asylum. Incorporated 1850. Opened for inmates 1849. Executive Officer, Mrs. Charles G. Stark, Milwaukee, Wis. Supported by endowment fund, interest on mortgage, and voluntary contributions. Value of institution property, $45,000. Number of beds, 100. Number of patients last year, 25; cured, 25.

Dispensaries.

California.

Oakland Homœopathic Free Clinic and Dispensary, Oakland. Incorporated 1892. Opened for patients 1892. Executive Officer, Alice Bush, M.D., 1101 Adeline Street, Oakland, Cal. Delegate, Alice Bush, M.D. Number of patients treated last year, 2034. Number of prescriptions, 5140. Number of outside visits made, 797. Cost of conducting last year, $1035.75.

Hahnemann Dispensary, San Francisco. Incorporated 1883. Opened for patients 1883. Executive Officer, William Boericke, M.D., 1812 Washington Street, San Francisco, Cal. Delegate William Boericke, M.D. Number of patients treated last year, 2014. Number of prescriptions, 5820. Number of outside visits made, 174. Cost of conducting last year, $805.15.

Pacific Homœopathic Dispensary, San Francisco. Incorporated 1876. Opened for patients 1877. Executive Officer, Mrs. Walter Parsons Clark, 636 Valencia Street, San Francisco, Cal. Number of patients treated last year, 1281. Number of prescriptions, 4841. Cost of conducting last year, $1004.50.

Southern Homœopathic Dispensary, San Francisco. Incorporated 1895. Opened for patients 1890. Executive Officer, Florence N. Ward, M.D., 606 Sutter Street, San Francisco, Cal. Delegate, James W. Ward, M.D. Number of patients treated last year, 350. Number of prescriptions, 1905. Cost of conducting last year, $879.30.

Colorado.

Haymarket Mission Dispensary, Denver. Executive Officer, A. C. Peck, 1320 Sixteenth Street, Denver, Col. Delegate, Eugene F. Storke, M.D.

Tabernacle Homœopathic Free Dispensary, Denver. Delegate, S. F. Shannon, M.D.

Connecticut.

Homœopathic Free Dispensary, Bridgeport. Opened for patients 1894. Executive Officer, David W. Ingalls, M.D., 151 Fairfield Avenue, Bridgeport, Conn. Number of patients last year, 354. Number of prescriptions, 1335. Number of outside visits made, 175. Cost of conducting last year, $65.00.

Delaware.

Homœopathic Free Dispensary, Wilmington. Incorporated 1883. Opened for patients 1838. Executive Officer, Mrs. S. S. Smyth, Broome Street and Delaware

Avenue, Wilmington, Del. Delegate, Lewis W. Flinn, M.D. Number of patients treated last year, 112. Number of prescriptions. 1809.

District of Columbia.

Homœopathic Free Dispensary and Emergency Hospital, Washington. Incorporated 1882. Opened for patients 1832. Executive Officer Mrs. Sarah A. Williamson. 88 M Street. Washington, D. C. Delegate. Richard Kingsman, M.D. This dispensary has not been opened for the past year.

Illinois.

Central Homœopathic Free Dispensary, Chicago.

Chicago Homœopathic Free Dispensary, Chicago. Incorporated 1876. Opened for patients 1876 Executive Officer, W. G. Willard, M.D., 544 Washington Boulevard, Chicago, Ill. Delegate, L. C. Grosvenor, M.D. Number of patients treated last year, 2729. Number of prescriptions, 11,268. Number of outside visits made, 632. Cost of conducting last year, $2000.

Dunham Dispensary, Chicago. Executive Officer, C. B. Stayt, M.D., 379 Wood Street, Chicago, Ill.

International Free Dispensary, Chicago. Incorporated 1895. Opened for patients 1891. Executive Officer, D. Duncan, M.D., Central Music Hall, Chicago, Ill. Delegate, C. C. Bernard, M.D.

Iowa.

City Free Dispensary of Council Bluffs. Incorporated 1882. Opened for patients 1882. Executive Officer, P. J. Montgomery, M D., Council Bluffs, Iowa. Delegate, P. J. Montgomery, M.D. Number of prescriptions, 671. Number of outside visits made, 20.

Kansas.

Samaritan Mission and Free Dispensary, Kansas City. Incorporated 1883. Opened for patients 1883. Executive Officer, Emily P. Newcombe, M.D., 47 and 49 North First Street, Kansas City, Kan.

Maryland.

Maryland Homœopathic Dispensary, Baltimore. Incorporated 1890. Opened for patients 1890. Executive Officer, James S. Barnard, M.D., 2111 St. Paul Street, Baltimore, Md. Delegate, James S. Barnard, M.D. Number of patients treated last year, 3043. Number of prescriptions, 11,460. Number of outside visits made, 187. Cost of conducting last year, $1000.

Southern Homœopathic College Dispensary, Baltimore. Incorporated 1890. Opened for patients 1891. Executive Officer, Henry Chandlee, M.D., 1019 Linden Avenue, Baltimore, Md. Delegate, Henry Chandlee, M.D. Number of patients treated last year, 3684. Number of prescriptions, 10,132. Number of outside visits made, 397.

Massachusetts.

Homœopathic Medical Dispensary, Boston. Incorporated 1856. Opened for patients 1857. Executive Officer, I. Tisdale Talbot, M.D., 685 Boylston Street, Boston, Mass. Delegate, A. Howard Powers, M.D.

Homœopathic Medical Dispensary, Burrough's Place Branch, Boston. Incorporated 1856. Opened for patients 1871. Executive Officer, I. Tisdale Talbot, M.D., 685 Boylston Street, Boston, Mass. Delegate, A. Howard Powers, M.D. Number of patients treated last year, 15,120. Number of prescriptions, 47,928. Number of outside visits, 13,053. Cost of conducting last year, $2916.

Homœopathic Medical Dispensary, West End Branch, Boston. Incorporated 1856. Opened for patients 1872. Executive Officer, I. Tisdale Talbot, M.D, 685 Boylston Street, Boston, Mass. Delegate, A. Howard Powers, M.D. Number of patients treated last year, 1601. Number of prescriptions, 3957. Number of outside visits, 439. Cost of conducting last year, $712.81.

Lowell Homœopathic Free Dispensary, Lowell. Opened for patients 1894. Executive Officer, G. Forrest Martin, M.D., 17 Kirk Street, Lowell, Mass. Delegate, F. A. Warner, M.D. Number of patients treated last year, 300. Number of prescriptions, 1000. Number of outside visits made, 30. Cost of conducting last year, $200.

Roxbury Homœopathic Dispensary, Roxbury. Incorporated 1887. Opened for patients 1887. Executive Officer, Mrs. William L. Jackson, 84 Dudley Street, Roxbury, Mass. Delegate, William L. Jackson, M.D. Number of patients treated last year, 1975. Number of prescriptions, 4117. Number of outside visits made, 3114. Cost of conducting last year, $1242.82.

Worcester Homœopathic Hospital and Dispensary Association, Worcester. Incorporated 1885. Opened for patients 1885. Executive Officer, Edgar A. Fisher, M.D., 25 Elm Street, Worcester, Mass. Delegate, Edgar A. Fisher, M.D. Number of patients treated last year, 1273. Number of prescriptions, 3939. Cost of conducting last year, $5952.92.

Michigan.

The Grace Hospital Dispensary, Detroit. Incoporated 1888. Opened for patients 1888. Executive Officer, A. T. Putnam, The Grace Hospital, Detroit, Mich. Number of patients treated last year, 2026. Number of prescriptions, 4180. Number of outside visits made, 6108.

Minnesota.

Minneapolis Homœopathic Hospital Free Dispensary, Minneapolis. Incorporated 1893. Opened for patients 1893. Executive Office, Oscar K. Richardson, M.D., 303 Masonic Temple, Minneapolis, Minn. Delegate, Henry C. Aldrich, M.D. Number of patients treated last year, 1195. Number of prescriptions, 5790. Number of outside visits made, 490. Cost of conducting last year, $300.

University Homœopathic Free Dispensary, Minneapolis. Incorporated 1888. Opened for patients 1883. Executive Officer, G. E. Clark, M.D., Stillwater, Minn. Delegate, G. E. Clark, M.D. Number of patients treated last year, 1474. Number of prescriptions, 7128. Number of outside visits made, 612. Cost of conducting last year, $500.

Missouri.

Homœopathic Free Dispensary, St. Louis. Opened for patients 1878. Executive Officer, James A. Campbell, M.D., 1729 Washington Avenue, St. Louis, Mo. Number of patients treated last year, 4149. Number of prescriptions, 9200. Number of outside visits made, 104. Cost of conducting last year, $235.

New Jersey.

West Jersey Homœopathic Hospital and Dispensary, Camden. Incorporated 1881. Opened for patients 1891. Executive Officer, William Kughn, 250 Mount Vernon Street, Camden, N. J. Delegate, E. M. Howard, M.D. Number of patients treated last year, 6882. Number of prescriptions, 11,360. Number of outside visits made, 3341.

East Orange Homœopathic Dispensary, Orange. Incorporated 1883. Opened for patients 1883. Executive Officer, Miss Emma L. Lindsley, 27 High Street, Orange, N. J. Delegate G. Herbert Richards, M.D. Number of patients treated last year, 219. Number of prescriptions, 869. Cost of conducting last year, $144.44.

New York.

Albany City Homœopathic Hospital and Dispensary, Albany. Incorporated 1868. Opened for patients 1868. Executive Officer, James W. Cox, Jr., 87 State Street, Albany, N. Y. Delegate, Edward G. Cox, M.D.

Brooklyn Homœopathic Hospital Dispensary, Brooklyn. Incorporated 1859. Opened for patients 1859. Executive Officer, George H. Iler, M.D., 455 Halsey Street, Brooklyn, N, Y. Delegate, George H. Iler, M.D. Number of patients treated last year, 11,477. Number of prescriptions, 30,582. Cost of conducting last year, $1500.

Brooklyn, E. D., Homœopathic Dispensary, Brooklyn. Incorporated 1872. Opened for patients 1872. Executive Officer, George V. Tompkins, 96 Wilson Street, Brooklyn, N. Y. Delegate, Herbert D. Schenck, M.D. Number of patients treated last year, 26,464. Number of prescriptions, 26,467.

Central Homœopathic Dispensary, Brooklyn. Incorporated 1883. Opened for patients 1883. Executive Officer, Mrs. Henry M. Johnson, Downing Street, Brooklyn, N. Y. Delegate, E V. Avery, M.D. Number of patients treated last year, 10,859. Number of prescriptions, 16,784. Number of outside visits made, 790. Cost of conducting last year, $1167.93.

Memorial Dispensary for Women and Children, Brooklyn. Executive Officer, Mary L. Lines, M.D., 344 Washington Avenue, Brooklyn, N. Y. Delegate, Lottie A. Cort, M.D. Incorporated 1883. Opened for patients 1884. Number of patients treated last year, 3165. Number of prescriptions, 7527. Cost of conducting last year, $1922.13.

Gates Avenue Homœopathic Dispensary, Brooklyn. Incorporated 1867, Opened for patients 1867. Executive Officer, D. R. Aldridge, 217 Prospect Place, Brooklyn, N. Y. Delegate, J. Lester Keep, M.D., Brooklyn, N. Y. Number of patients treated last year, 4279. Number of prescriptions, 12,237. Number of outside visits made, 680.

Twenty-sixth Ward Homœopathic Dispensary, Brooklyn, Incorporated 1894. Opened for patients 1894 Executive Officer, J. P. Ruyl, M.D., 49 Ashford Street, Brooklyn, N. Y. Delegate, J. P. Ruyl, M.D. Number of patients treated last year, 2950. Number of prescriptions, 3300. Cost of conducting last year, $260.

Flatbush Homœopathic Dispensary, Brooklyn. Opened for patients 1890. Executive Officer, Robert Boocock, M D., 965 Flatbush Avenue, Brooklyn, N. Y. Delegate, Robert Boocock, M.D. Number of patients treated last year, 235.

Number of prescriptions, 757. Number of outside visits made, 134. Cost of conducting last year, $50.

Dispensary of the Five Points House of Industry, New York. Incorporated 1854. Opened for patients 1860 Executive Officer, William F. Barnard, 1 5 Worth Street, New York City. Delegate, E. S. Munson, M.D.

Dispensary of the New York Medical College and Hospital for Women, New York. Incorporated 1863. Opened for patients 1865. Executive Officer, Louise Lannin, M D., 234 West Fifty-second Street, New York City. Delegate, Louise Lannin, M.D.

Greenwich Homœopathic Dispensary, New York. Executive Officer, J. Wilford Allen, M.D., 110 West Twelfth Street, New York City. Delegate, J. Wilford Allen, M.D. Opened for patients 1896. Incorporated 1896.

Hahnemann Hospital Dispensary, New York. Incorporated 1875. Opened for patients 1891. Executive Officer, Wilfred G. Fralick, M.D., 745 Madison Avenue, New York City. Delegate, T. Franklin Smith, M.D. Number of patients treated last year, 2070. Number of prescriptions, 7224.

Hamilton Homœopathic Dispensary, New York. Opened for patients 1889. Executive Officer, Frank LeC. Dowe, Southern Boulevard, Bedford Park, New York City. Delegate, Frank LeC. Dowe, M.D.

Homœopathic Dispensary for Women and Children, New York. Executive Officer, Caroline J. Y. Keep, M.D., 303 West Thirty-sixth Street, New York City. Delegate, Caroline J. Y. Keep, M.D. Number of patients treated last year, 2205. Number of prescriptions, 6378.

New York Homœopathic Medical College Dispensary, New York. Incorporated 1863. Opened for patients 1863. Executive Officer, John W. Dowling, M.D., 8 West Forty-fifth Street, New York City. Delegate, John W. Dowling, M.D. Number of patients treated last year, 3466. Number of prescriptions, 12,131. Number of outside visits made, 1524. Cost of conducting last year, $500.

Tompkins Square Homœopathic Dispensary, New York. Incorporated 1874. Opened for patients 1863. Executive Officer, John P. Ermentraut, M.D., 261 East Fourth Street, New York City. Delegate, John P. Ermentraut. M.D. Number of patients treated last year, 6814. Number of prescriptions, 18,480. Numbes of outside visits made, 590. Cost of conducting last year, $633.43.

West Side Clinic and Hospital, New York. Opened for patients 1894. Executive Officer,. I P. Sherman, M.D., 114 West Forty-fourth Street, New York City. Delegate,. I P. Sherman, M.D. Number of patients treated last year, 2174. Number of prescriptions, 7965. Number of outside visits made, 756.

Western Homœopathic Dispensary, New York. Opened for patients 1890. Executive Officer, D. A. McMichael, M.D., 67 West Ninety-sixth Street, New York City. Delegate, D. A. McMichael, M.D.

Homœopathic Free Dispensary, Rochester. Incorporated 1887. Opened for patients 1889. Executive Officer, George A. Bachman, M.D., 167 South Avenue, Rochester, N. Y. Delegate, George A. Bachman, M.D. Number of patients treated last year, 747. Number of prescriptions, 2937.

Syracuse Homœopathic Free Dispensary, Syracuse. Incorporated 1891. Opened for patients 1890. Executive Officer, W. C. Du Bois, M.D., 357 Warren Street, Syracuse, N. Y. Delegate, E. Olin Kinne, M.D. Number of patients treated

last year, 763. Number of prescriptions, 2654. Number of outside visits made, 35. Cost of conducting last year, $300.

Ohio.

Free Dispensary of the Ohio Hospital for Women and Children, Cincinnati. Incorporated 1881. Opened for patients 1878. Executive Officer, Mrs. J. Oyler, Price's Hill, Cincinnati, O. Delegate, Ellen M. Kirk, M.D.

Homœopathic Free Dispensary, Cincinnati. Incorporated 1867. Opened for patients 1867. Executive Officer, Charles E. Walton, M.D., Seventh and John Streets, Cincinnati, O. Delegate, Charles E. Walton, M.D. Number of patients treated last year, 9188. Number of prescriptions, 12,033. Number of outside visits made, 1694.

Dispensary of the Cleveland Medical College, Cleveland. Incorporated 1890. Opened for patients 1890. Executive Officer, William F. Miller, M.D., 53 Boliver Street, Cleveland, O. Delegate, H. H. Baxter, M.D. Number of patients treated last year, 12,078. Number of prescriptions, 23,327. Number of outside visits made, 980. Cost of conducting last year, $1200.

Free Medical and Surgical Dispensary for Women and Children, Cleveland. Incorporated 1894. Opened for patients 1878. Executive Officer, Martha M. Stone, M.D , 914 Prospect Street, Cleveland, O. Delegate, Martha M. Stone, M.D.

Good Samaritan Homœopathic Dispensary, Cleveland. Incorporated 1849. Opened for patients 1849. Executive Officer, S. L. Hall, M.D., 106 Euclid Avenue, Cleveland, O. Delegate, S. L. Hall, M.D.

Oregon.

Dispensary of the Presbyterian Chinese Mission, Portland. Opened for patients 1894. Executive Officer, Rev. W. S. Holt, 209 Second Street, Portland, Oregon. Delegate, Henry C. Jefferds, M.D.

Pennsylvania.

Homœopathic Free Dispensary, Erie. Incorporated 1894. Opened for patients 1895. Executive Officer, J. L. Ireland, M.D., Erie, Pa. Delegate, Edward Cranch, M.D. Number of patients treated last year, 117. Number of prescriptions, 429. Cost of conducting last year, $1345.

Children's Homœopathic Hospital of Philadelphia, Outside Department. Incorporated 1877. Opened for patients 1877. Executive Officer, N. B. Kelly, 926 North Broad Street, Philadelphia, Pa. Delegate, Bushrod W. James, M.D. Number of patients treated last year, 32,183. Number of prescriptions, 4676.

Hahnemann Medical College Dispensary of Philadelphia. Incorporated 1848. Opened for patients 1848. Executive Officer, William G. Foulke, 221 South Fifth Street, Philadelphia, Pa. Delegate, Charles Mohr, M.D. Number of patients treated last year, 25,807. Number of prescriptions, 91,424. Number of outside visits made, 1742.

St. Luke's Homœopathic Dispensary, Philadelphia. Incorporated 1896. Opened for patients 1896. Executive Officer, George W. Stewart, M.D., Oak Lane, Philadelphia, Pa. Delegate, George W. Stewart, M.D. Number of patients treated last year, 4672. Number of prescriptions, 10,755.

Woman's Homœopathic Association of Pennsylvania Medical, Surgical and Maternity Hospital, Philadelphia. Incorporated 1882. Opened for patients 1884. Executive Officer, Mrs R. S. Mason, School Lane, Germantown, Philadelphia, Pa. Delegate, Mary A. Cooke, M.D. Number of patients treated last year, 3282, Number of prescriptions, 10,021. Number of outside visits made, 1569.

Homœopathic Medical and Surgical Hospital and Dispensary of Pittsburg. Incorporated 1866. Opened for patients 1866. Executive Officer, W. D. Slack, Homœopathic Hospital, Pittsburg, Pa. Delegate, J. H. McClelland, M.D. Number of patients treated last year, 15,943. Number of prescriptions, 34,061.

Medical and Surgical Hospital and Dispensary, Reading. Incorporated 1891. Opened for patients 1891. Executive Officer. W. W. Light, 35 North Sixth Street, Reading, Pa. Delegate, W. F. Marks, M.D.

Rhode Island.

Providence Free Homœopathic Dispensary, Providence. Incorporated 1873. Opened for patients 1874. Executive Officer, Chas. W. Bowen, 317 Westminster Street, Providence, R. I. Delegate, George B. Peck, M.D. Number of patients treated last year, 2685. Number of prescriptions, 4169. Cost of conducting last year, $515.13.

Homœopathic Journals.

The American Homœopathist. Established 1878. Published semi-monthly, octavo form, by A. L. Chatterton & Co., 78 Maiden Lane, New York City. Edited by Frank Kraft, M D., 57 Bell Avenue, Cleveland, O. Subscription price, $2.00; 32 pages in each number.

The Bulletin of Medical Instruction. Established 1894. Published quarterly, octavo form, by W. T. Talbot, M.D., 685 Boylston Street, Boston, Mass. Subscription price, 50 cents.

The Chironian. Established 1886. Published semi-monthly, during college year, quarto form, by A. L. Chatterton & Co., 78 Maiden Lane, New York City. Edited by students of the New York Homœopathic Medical College. Subscription price, $1.50. Twenty pages in each number.

The Clinique. Established 1880. Published monthly, octavo form, 56 pages in each number, by C. Gurnee Fellows, M.D., 70 State Street, Chicago, Ill. Edited by R. Ludlam, M D., 1823 Michigan Avenue, Chicago, Ill. Subscription price, $2 00.

The Denver Journal of Homœopathy. Established 1894. Published monthly, octavo form, 40 pages in each number, by The Denver Publishing Company, California Building, Denver, Col. Edited by S. S. Smythe, M.D., California Building, Denver, Col. Subscription price, $2.00.

The Hahnemann Advocate. Established 1895. Published monthly, octavo form, by Hahnemann Publishing Co., Station O., Chicago, Ill. Edited by H. W. Pierson, M.D., 1660 Yale Street, Chicago, Ill. One hundred and twenty pages in each number. Subscription price, $3.00.

The Hahnemann Institute. Established 1893. Published monthly during the college year, octavo form, by L. E. Davies, 1345 Vine Street, Philadelphia, Pa. Edited by C. D. Chandler, B.A. Sixteen pages in each number. Subscription price, 50 cents.

The Hahnemannian Monthly. Established 1865. Published monthly, octavo form, one hundred and ten pages in each number, by William W. Van Baun, M.D., 1402 Spruce Street, Philadelphia, Pa. Edited by William W. Van Baun, M.D., W. H. Bigler, M D., Clarence Bartlett, M.D., Philadelphia, Pa. Subscription price, $3.00.

The Homœopathic Envoy. Established 1890. Published monthly, quarto form, 8 pages in each number, by E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Edited by E. P. Anshutz. Subscription price, 25 cents.

The Homœopathic Eye, Ear and Throat Journal. Established 1895. Published monthly, octavo form, 48 pages in each number, by James A. Robinson, 158 West Forty-seventh Street. New York City Edited by Arthur B. Norton, M.D., 16 West Forty-fifth Street, New York City; Charles H. Helfrich, M.D., 136 West Forty-eighth Street, New York City; John B. Garrison, M.D., 111 East Seventieth Street, New York City; George W. McDowell, M.D., 136 West One Hundred and Thirtieth Street, New York City. Subscription price, $2.00.

The Homœopathic Guide. Established 1893. Published monthly, quarto form, by Allison Clokey, M.D., Second and Chestnut Streets, Louisville, Ky. Edited by Allison Clokey, M.D. Twelve pages in each number. Subscription price, 50 cents.

The Homœopathic Journal of Obstetrics, Gynæcology and Pædology. Established 1879. Published bi-monthly, octavo form, by A. L. Chatterton & Co., 78 Maiden Lane, New York City. Edited by B. F. Underwood, M.D., 78 Maiden Lane, New York City. One hundred and eight pages in each number. Subscription price, $4.00.

The Homœopathic Physician. Established monthly, octavo form, by Walter M. James, M.D., 1231 Locust Street, Philadelphia, Pa. Edited by Walter M. James, M.D. Forty-eight to sixty-four pages in each number. Subscription price, $2.50.

The Homœopathic Recorder. Established 1884. Published monthly, octavo form, by Boericke & Tafel, 1011 Arch Street, Philadelphia, Pa. Edited by E. P. Anshutz, P. O. Box 921, Philadelphia, Pa. Forty-eight pages in each number. Subscription price, $1.00.

The Journal of Electro-Therapeutics. Established 1882. Published quarterly, octavo form, by A. L. Chatterton & Co., 78 Maiden Lane, New York City. Edited by William H. King, M.D, 64 West Fifty-first Street, New York City. Seventy-six pages in each number. Subscription price, $1.00.

The Journal of Ophthalmology, Otology and Laryngology. Established 1889. Published quarterly, octavo form, by A. L. Chatterton & Co., 78 Maiden Lane, New York City. One hundred pages in each number. Subscription price, $1 00. Edited by Charles Deady, M.D., 110 West Forty-eighth Street, New York City.

The Journal of Orificial Surgery. Established 1892. Published monthly, octavo form, by E H. Pratt, M.D., and F. D. Holbrook, M.D., 100 State Street, Chicago, Ill. Edited by E H. Pratt, M.D, and F. D. Holbrook, M.D. Fifty pages in each number. Subscription price, $2.00.

The Medical Arena. Established 1892. Published monthly, octavo form, by A. E. Neumeister, M D, 1214 Main Street, Kansas City, Mo. Edited by S. C.

Delap, M D., and W. D. Foster, M.D., 1214 Main Street, Kansas City, Mo. Thirty-two pages in each number. Subscription price, $1.00.

The Medical Argus. Established 1890. Published monthly, quarto form, by the Medical Argus Co., 401 Century Building, Minneapolis, Minn. Edited by E. F Casseday, M D., 401 Century Building, Minneapolis, Minn. Twenty-four pages in each number. Subscription price, $1.00.

The Medical Century. Established 1893. Published semi-monthly, quarto form, by Medical Century Co., 31 Washington Street, Chicago, Ill. Edited by Charles E. Fisher, M.D., 31 Washington Street, Chicago, Ill. Forty-eight pages in each number. Subscription price, $3.00.

The Medical Current. Established 1885. Published monthly, octavo form, by Drs. Dunn and Smith, 929 Marshall Field Building, Chicago, Ill. Edited by Wesley A. Dunn, M.D., 929 Marshall Field Building, Chicago. Ill.; Wilson A. Smith, M.D., Walter Avenue, Morgan Park, Ill. Fifty pages in each number. Subscription price, $1.00.

The Medical Era. Established 1883. Published monthly, quarto form, by Era Publishing Company, 60 State Street, Chicago, Ill. Edited by Charles Gatchell, M.D., 162 Thirtieth Street, Chicago, Ill. Forty-four pages in each number. Supscription price, $1.00.

The Medical Student. Established 1888. Published monthly, quarto form, by students of Boston University School of Medicine, Boston, Mass. Edited by Charles E. Montague, Box 105, Station A, Boston, Mass. Sixteen pages of reading matter in each number. Subscription price, $1.00.

The Medical Visitor. Established 18[illegible]4. Published monthly, octavo form by Temple S. Hoyne, M.D., 1833 Indiana Avenue, Chicago, Ill. Edited by Temple S. Hoyne, M.D. Thirty-two to thirty-six pages in each number. Subscription price, $1.00.

The Minneapolis Homœopathic Magazine. Established 1892. Published monthly, octavo form, by Minneapolis Pharmacy Co., 608 Nicollet Avenue, Minneapolis, Minn. Edited by Henry C. Aldrich, M.D., 313 Medical Block, Minneapolis, Minn. Twenty-eight pages in each number. Subscription price, $1.00.

The New England Medical Gazette. Established 1861. Published monthly, octavo form, by Otis Clapp & Son, 10 Park Square, Boston, Mass. Edited by John P. Sntherland, M.D., 295 Commonwealth Avenue, Boston, Mass. Forty-eight pages of reading matter in each number. Subscription price, $2.00.

The North American Journal of Homœopathy. Established 1852. Published monthly, octavo form, by J. J. Beitler & Co., 105 West Thirty-ninth Street, New York City. Edited by Eugene H. Porter, M.D., 181 West Seventy-third Street, New York City. One hundred and twelve pages in each number. Subscription price, $3.00.

The Northwestern Sanitarium. Established 1894. Published monthly, octavo form, by N. A. Pennoyer, M.D., Kenosha, Wis. Edited by N. A. Pennoyer, M.D.

The Pacific Coast Journal of Homœopathy. Established 1890. Published monthly, octavo form, by Boericke & Runyon, 234 Sutter Street, San Francisco, Cal. Edited by H. R. Arndt, M.D., 951 Sixth Street, San Diego, Cal. One hundred and eighty pages in each number. Subscription price, $2.00.

The People's Health Journal. Established 1885. Published monthly, quarto form. by People's Health Journal Co., 441 Dearborn Avenue, Chicago, Ill. Edited by L. D. Rodgers, M.D., and Ida Wright Rodgers, M.D., 441 Dearborn Avenue, Chicago, Ill. Eight pages in each number. Subscription price, $1.00.

The St. Louis Journal of Homœopathy and Clinical Reporter. Established 1895. Edited by J. Martin Kershaw, M.D., 3421 Washington Avenue, St. Louis, Mo.

The Southern Journal of Homœopathy. Established 1883. Published monthly, octavo form, by Henry Chandlee, M.D., 1019 Linden Avenue, Baltimore, Md. Edited by Eldridge C. Price, M.D., 1012 Madison Avenue, Baltimore, Md. Seventy-two pages in each number. Subscription price, $2.00.

RECAPITULATION.

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HOMŒOPATHIC MEDICAL COLLEGES

Name of College or Medical School.	Where Located.	When Incorporated.	When Students First Admitted.	Name and Address of Dean.	Length of each Yearly Course & Time it commences.
1. Hahnemann Hospital College of San Francisco.	San Francisco, Cal.	1881	1884	C. B. Currier, M.D., 921 Geary Street, San Francisco, Cal.	6 months. Oct.
2. Denver Hom. Medical College and Hospital.	Denver, Colo.	1894	1894	S. S. Smythe, M.D., 403 California Bldg., Denver.	26 weeks. Oct. 1.
3. Hahnemann Medical College and Hospital of Chicago.	Chicago, Ill.	1855	1859	C. H. Vilas, M.D., Central Music Hall, Chicago, Ill.	6 months. Sept. 17.
4. Chicago Homœop'thic Medical College.	Chicago, Ill.	1876	1876	J. S. Mitchell, M.D., 2954 Prairie Ave., Chicago, Ill.	6 months. Sept. 17.
5. Hering Medical College.	Chicago, Ill.	1892	1892	H. C. Allen, M.D., 5142 Washington Ave., Chicago, Ill.	6 months. Oct. 1.
6. National Medical College.	Chicago, Ill.	1891	1891	J. J. Thompson, M.D., Marshall Field Bldg., Chicago, Ill.	7 months. Sept. 1.
7. Homœopathic Med. Dept. of State University of Iowa.	Iowa City, Iowa.	1877	1877	W. H. Dickinson, M.D., Des Moines, Iowa.	6 months. Sept. 12.
8. Southwestern Homœopathic College.	Louisville, Ky.	1892	1893	A. Leight Monroe, M.D., Louisville, Ky.	6 months.
9. Kansas City Homœopathic Med. College.	Kansas City, Missouri.	1888	1888	Wm. Davis Foster, M.D., 420 W. 11th St., Kansas City, Mo.	6 months. Sept. 17.
10. Southern Hom. Med. College and Hospital.	Baltimore, Md.	1890	1891	Henry Chandlee, M.D., 1019 Linden Ave., Baltimore, Md.	25 weeks. 1st Mon. in Oct.
11. Boston University School of Medicine.	Boston, Mass.	1869	1873	I. T. Talbot, M.D., 685 Boylston St., Boston, Mass.	8 months. Oct. 8.
12. Homœopathic Med'c'l College in University of Michigan.	Ann Arbor, Mich.	1875	1875	W. B. Hinsdale, M.D., Ann Arbor, Michigan.	9 months. Oct. 1.
13. Coll. of Hom. Med. and Surgery of the Univ. of Minnesota.	Minneapolis Minn.	1888	1888	A. P. Williamson, M.D., 502 Nicollet Ave., Minneapolis, Minn.	8 months. Oct.
14. Homœopathic Med'c'l College of Missouri.	St. Louis, Mo.	1857	1859	Wm. C. Richardson, M.D., 3913 N. 11th St., St. Louis, Mo.	26 weeks. Oct. 1.
15. New York Homœop. Medical College and Hospital.	New York, N. Y.	1860	1860	Wm. Tod Helmuth, M.D., 504 5th Ave., New York, N. Y.	6 months. Oct. 1.
16. New York Medical College and Hospital for Women.	New York, N. Y.	1861	1861	Jennie M. Lozier, M.D., New Brighton, Staten Island, N. Y.	26 weeks. Oct. 1.
17. The Cleveland University of Medicine and Surgery.	Cleveland, Ohio.	1849	1849	Wm. A. Phillips, M.D., 89 Euclid Ave., Cleveland, Ohio.	6 months. Sept.
18. The Cleveland Medical College.	Cleveland, Ohio.	1890	1890	Gaius J. Jones, M.D., Case Building, Cleveland, Ohio.	6 months. Last Wed. in Sept.
19. Pulte Medic'l College.	Cincinnati, Ohio.	1872	1872	J. D. Buck, M.D., 124 W. 7th St., Cincinnati, Ohio.	6 months. Last Wed. in Sept.
20. Hahnemann Medical College of Philadelphia.	Philadelph'a Pa.	1848	1848	Pemberton Dudley, M.D., 1405 N. 16th Street, Philadelphia, Pa.	7 months. Oct. 1.

IN THE UNITED STATES.

Courses requir'd Before Graduation.	No. of Students in Past Year.	No. Graduat's at Last Com'nc'mt.	No. of Alumni.	No. of Faculty.	No. Professors.	No. Lecturers.	Estimate Value College Prop'ty.	Amount of Endowments.	Amount of Debt.	Amount of Income.	DELEGATES.
4	33	11	101	18	16	2	$ 5,000	.....	.....	.....	Wm. Boericke, M.D. C. B. Currier., M.D.
4	32	2	3	26	18	8	.....	.....	.....	$ 6,000	S. S. Smythe, M.D. J. W. Anderson, M.D.
4	259	76	2237	41	15	26	187,000	$ 70,000	$ 50,000	42,183	C. H. Vilas, M.D. Joseph P. Cobb, M.D.
4	171	67	802	35	19	16	125,000	.....	20,000	15,500	J. S. Mitchell, M.D. N. B. Delamater, M.D.
4	65	20	82	15	15	16	.....	.....	.....	.....	H. C. Allen, M.D. W. W. Stafford, M.D.
4	115	25	61	37	21	16	.....	.....	.....	.....	T. C. Duncan, M.D. J. J. Thompson, M.D.
4	81	19	207	11	6	5	30,000	State.	.....	State.	F. J. Newbury, M.D. George Royal, M.D.
4	44	6	10	18	18	...	Rent'd.	.....	.....	3,000	A. Clokey, M.D. Sarah J. Millsop, M D.
4	56	21	72	26	9	17	15,000	.....	.....	3,000	Wm. D. Foster, M.D. A. E. Neumeister, M.D.
4	32	4	37	27	15	12	30,000	.....	9,000	3,000	J. B. G. Custis, M.D. C. L. Rumsey, M.D.
4	183	33	679	44	24	20	250,000	52,000	54,000	18,158	I. T. Talbot, M.D. C. Wesselhoeft, M.D.
4	28	1	322	7	4	3	.....	.....	.....	State.	W. B. Hinsdale, M.D. R. S. Copeland, M.D.
3	31	8	37	16	16	...	.....	.....	.....	State & stu.fees	W. E. Leonard, M.D. G. E. Clark, M.D.
4	74	18	563	22	13	9	15,000	.....	5,000	2,500	W.C. Richardson, M.D. L. C. McElwee, M.D.
4	121	29	1363	42	25	17	360,200	.....	141762	6,347	T. F. Allen, M.D. E. H. Porter, M.D.
4	25	5	314	30	21	9	Rent'd.	.....	.....	stu.fees	H. M. Dearborn, M.D. J. T. O'Conner, M.D.
4	152	45	1404	34	18	10	75,000	20,000	15,000	13,000	W. A. Phillips, M D. D. H. Beckwith, M.D.
4	123	31	178	28	11	17	60,000	.....	.....	11,000	G. J. Jones, M.D. Jas. C. Wood, M.D.
4	46	14	573	24	16	8	30,000	.....	2,000	3,000	J. D. Buck, M.D. C. E. Walton, M.D.
4	275	75	2266	28	12	16	150,000	.....	.....	stu.fees	Pemb. Dudley, M.D. W.B. VanLennep, M.D.

GRADUATES OF HOMŒOPATHIC MEDICAL COLLEGES. SESSION OF 1895–96.

HAHNEMANN HOSPITAL COLLEGE OF SAN FRANCISCO, CAL.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session October 1, 1895, to April 19, 1896. No. of weeks, 26. Matriculants, 33. Graduates, 11. Commencement, April 30, 1896.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Armstrong, Bessie C.	San Francisco, Cal.	25	Dr. R. H. Curtis	3
Bateman, Frank L.	San Francisco, Cal.	22	Dr. E. R. Bryant	3
Boldermann, Lillie.	San Francisco, Cal.	26		3
Chisholm, Mary Dunlap	Nova Scotia	29		3
Hofmann, Mary E.	San Francisco, Cal.	51		4
Howell, Harriett	San Francisco, Cal.	24		3
Mansfield, Jera M.	San Francisco, Cal.	27		3
McNally, John B.	San Francisco, Cal.			
Potter, C. D.	Oakland, Cal.	26		3
Small, Chas. K.	Oakland, Cal.	25	Dr. A. E. Small	3
Thompson, Alda J.	San Francisco, Cal.	26		3

DENVER HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 14, 1895, to April 17, 1896. No. of weeks, 26. Matriculants, 32. Graduates, 2. Commencement, April 17, 1896.

Mansur, Lettie C.	California	41	Dr. E. F. Storm	4
[3]Spoor, Walter D.	New York	22	Dr. Davis E. Spoor	4
Abbott, Frona	New York	27	Dr. Cooper	1
Buler, Margaret Hofer	Colorado	22	Dr. S. S. Smythe	1
Batie, Edward J.	Colorado	31	Dr. C. E. Tennant, Jr.	1
Brown, James B.	Colorado	29	Dr. C. E. Tennant, Sr.	1
Cardwell, Alvira J.	Colorado	36	Dr. E. F. Storke	2
Cardwell, Marshall W.	Colorado	39	Dr. E. F. Storke	1
Clothirs, Mary E.	Colorado	30	Dr. E. F. A. Drake	1
Connett, Jessie B.	Colorado	32	Dr. S. S. Smythe	3
[5]Christy, Ella B.	Illinois	38	Dr. E. F. A. Drake	2
Cowell, Chas. B.	Colorado	29	Dr. W. A. Burr	1
[4]Coleman, Fannie E.	Kansas	24	Dr. Cooper	2
Connett, William S.	Colorado	31	Dr. S. S. Smythe	1
Darling, James F.	Colorado	35	Dr. C. E. Tennant	2
Horton, W. S.	Colorado	21	Dr. Miller	1
Johnson, Bella McKee	Colorado	40	Dr. E. F. Storke	2
King, Walter J.	Colorado	23	Dr. E. H. King	2
Mastin, James W.	Colorado	35	Dr. S. S. Smythe	2
McCurtain, Frank E.	Kansas	26	Dr. J. Wylie Anderson	2
[5]Nordlund, Marie	Colorado	45	Dr. W. A. Burr	2
Pollack, Lillian I.	Colorado	38	Dr. J. C. Irvine	2
[6]Peterson, Amia M.	Colorado	29	Dr. Cooper	2
[7]Reinhardt, Eugenia J.	Colorado	30		2
[8]Spoor, David E., M.D.	New York			
[9]Tennant, E. E., M.D.	Colorado			
Tennant, Jessie Riggs	Colorado	24	Dr. C. E. Tennant, Jr.	
Thompson, Chas. E.	Colorado	33		

DENVER HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Vinland, Otto S. O.	South Dakota	25	Dr. E. F. Storke.	
Wetlanfer, Ellen J.	South Dakota	49	Dr. E. F. Storke.	
Wetlanfer, Nelson R.	South Dakota	47	Dr. E. F. Storke.	
Wheeler, Pearl B.	Colorado.	22	Dr. B. A. Wheeler.	2

[1] 3 years in San Francisco Hom. Med. Coll.; 1 year in Denver Coll.
[2] 2 years in New York Hom. Coll.; 1 year in Denver Med. Coll.
[3] 1 year in Kansas City Hom. Coll.; 1 year in Denver Hom. Coll.
[4] 1 year in Kansas City Hom. Coll.; 1 year in Denver Hom. Coll.
[5] 1 year in Gross Med. Coll.; 1 year in Denver Med. Coll.
[6] 1 year in Keokuk, Iowa; 1 year in Denver Coll.
[7] 2 years in Keokuk, Iowa; 1 year in Denver Coll.
[8] 3 years in New York Med. Coll.; 1 year in Denver Med. Coll.
[9] 3 years in Gross Med. Coll.; 1 year in Denver Med. Coll.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL, OF CHICAGO, ILL.*

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 17, 1895, to March 26, 1896. No. of weeks, —. Matriculants, —. Graduates, —. Commencement, —.

Adams, John F.	Washington	31	Dr. Dodge.	4
Ames, Edward Richard.	Iowa	26	Dr. A. M. Linn.	4
Arnette, Mary M.	Colorado.	52	Dr. C. Johnson.	4
Beagle, John S.	Minnesota.	22	Dr. S. P. Merideth.	4
Beaman, Carroll John.	Illinois.	20	Dr. W. H. Chappelle.	4
Bergeron, Emma G.	Illinois.	35	Faculty	4
Boorman, Winifred.	South Dakota	23	Dr. R. M. Nichols.	4
Bristol, Amanda G.	Illinois	32	Dr. H. G. Churchill.	4
Brown, Alice M. Barlow.	Arkansas	24	Hospital	4
Brown, Lila Eliza.	Iowa	27	Dr. H. N. Morvin.	4
Butchart, Eugenia May.	Canada	24	Dr. Isaac Bentley.	4
Camerer, Kent.	Illinois	21	Dr. J. T. Webster.	4
Cole, Emmett J.	Wisconsin	44	Dr. A. E. Oriatt.	4
[1]Cooke, Clarissa Ellen.	Ohio	25	Dr. E. Kirk.	4
Crockett, Crete Arnette.	Colorado.	26	Dr. C. Johnson.	4
[2]Croftan, Alfred C., Ph.D.	New York	24	Pasteur Institute.	5
Cromwell, Lydia Herts.	Pennsylvania.	21	Dr. A. O. Taylor.	4
Crum, Philip Alfred.	Illinois	22	Dr. A. A. Whipple.	4
[3]Denham, J. F.	Wisconsin	35	Dr. A. M. Hutchinson.	4
Dunon, Robert B.	Ohio.	29	Dr. S. E. Simmons.	4
Dowling, Denny Grave.	Michigan	33	Faculty	4
Eikenberry, B. F., B.S.	Indiana	25	Dr. B. S. Valparaiso.	4
[4]File, Elmer Clayton.	Illinois	23	Dr. E. Dillioid.	4
[5]Fletcher, Sara E.	Ohio.	35	Dr. W. B. Carpenter.	4
[6]Forbes, William Olin.	Kansas	25	Dr. A. H. Baldwin.	4
Gattau, Ferdinand.	Montana.	31	Dr. P. P. Gray	4
Gilman, William T.	Illinois	34	Dr. J. E. Gilman.	4
Gowdy, Francis A.	Minnesota.	23	Dr S. P. Merideth.	4
[7]Hadden, John D.	Illinois	24	Dr. J. E. Sawyer.	4
[8]Haigh, Edith Submit.	Illinois	26	Dr. F. Haigh.	4
[9]Haseltine, Burton D.	Pennsylvania.	21	Dr. W. C. Brittain.	4
Hinkley, Junie J.	Ohio.	24	Dr. L. H. Hinkley.	4
Holley, A. Clare.	Missouri	23	Dr. S. Spencer.	4
Holmes, Anna Margaret.	Illinois	31	Dr. H. S. Skor.	4

HAHNEMANN MED. COLLEGE AND HOSPITAL OF CHICAGO—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Hunter, Edwin L	Kansas	21	L. K. Hunter, M.D	4
Ingersoll, L. F	Illinois	40	Dr. F. A. Harris	4
Johnson, Charles F.	Indiana	25	Dr. E. Z. Cole	4
[10]Jones, Mary H	Iowa	34	Dr. P. J. Montgomery	4
Leavitt, C. Franklin	Illinois	22	Dr. S. Leavitt	4
McGee, John A	Illinois	23	Dr. D. C. Hindshaw	4
McFee, Eva May	New York	25	Dr. Julia F. Haywood	4
Maple, John Edgar	Illinois	29	Dr. J. M. Foster	4
Martin, Fred Walbridge	Vermont	30	Dr. M. Martin	4
Mateer, Charles A	Illinois	28	Dr. Doan Parks	4
Miller, Seth S	Pennsylvania	28	Dr. S. S. Simmons	4
Mitchell, Mary E	Illinois	25	Faculty	4
Morroir, Vashti Evelyn	Missouri	26	Dr. C. W. Bozarth	4
[11]Nesbitt, Robert H. T	Colorado	44	Faculty	4
Oviatt, Ellen Marie	Colorado	23	Dr. R. L. Liggett	4
Payne, Hannah Jones	Illinois	29	Dr. Jos. P. Cobb	4
[12]Powell, Lefferts M., M.D	New York	34	Dr. R. H. Morrey	4
Rakestraw, Anna H	Indiana	40	Dr. C. W. Carter	4
Ressler, Clarence E.	Ohio	26	Dr. E. A. Lyon	4
Rhodes, Clinton C	Kansas	25	Dr. L. A. Ryder	4
Richer, Jacob D	Indiana	28	Dr. F. C. Stewart	4
Roe, William B	Michigan	25	Dr. G. R. Herkimer	4
Ronneberg, W. George	Minnesota	22	Dr. A. E. Henderson	4
Rose, Marie Frazier	Pennsylvania	31	Dr. Mann	4
[13]Serviss, Climena	Illinois	41	Dr. Brazer	4
Spencer, Annie Whitney	New York	33	Dr. E. S. Bailey	4
Staggs, Douglas B	Iowa	23	Dr. W. A. Staggs	4
Stewart, Alfred J	Nebraska	27	Dr. H. L. Vrandenburg	4
Swantees, Samuel F	Illinois	29	Dr. Keefur	4
Taylor, Amanda L., A.M	Illinois	35	Dr. J. F. Neal	4
Thomas, Martha V	Indiana	40	Dr. N. G. Rife	4
Waggoner, M. R., Jr	Iowa	21	Dr. M. K. Waggoner	4
Walton, Charles A	Illinois	25	Dr. McIntyre	4
Walters, John	Indiana	43	Dr. Cromwell	4
Ward, Harriet B	Illinois	33	Dr. W. A. Shepard	4
Welch, Charles Edgar	Ohio	24	Dr. C. F Junkermann	4
[14]Webster, Joseph B	Illinois	28	Dr. C. Shaw	4
Whipple, Cullen H	Ohio	37	Dr. Kate W. Carey	4
White, Annie H	Illinois	45	Dr. M. Martin	5[1]
[15]White, Mary B., M.D	Nebraska	32	Chicago Homo	4
Willing, Mary H	Indiana	22	Dr. A. J. Willing	4
Wood, Reuben Henry	Minnesota	33	A. B. Cole	4

* Each student is credited with one year preceptor.
[1] 1 year preceptor; 1 year in Pulte: 2 years in Hahnemann, Chicago.
[2] 2 years in Heidelberg; 1 year in Pasteur's Inst., Paris; 2 years in Hahn., Chicago.
[3] 1 year preceptor; 2 years in Cleveland Hom.; 1 year in Hahn., Chicago.
[4] 1 year preceptor; 2 years in American Dental; 2 years in Hahn., Chicago.
[5] 1 year preceptor; 1 year in Pulte; 2 years in Hahn., Chicago.
[6] 2 years in Johns Hopkins Univ.; 3 years in Hahn., Chicago.
[7] 1 year preceptor; 1 year in Univ. of Minnesota; 2 years in Hahn., Chicago.
[8] 1 year preceptor; 2 years in Hering; 1 year in Hahn., Chicago.
[9] 1 year preceptor; 1 year in Hahn. Coll., Cleveland; 2 years in Hahn., Chicago.
[10] 1 year preceptor; 1 year in Hahn., Chicago; 2 years in C. B. Med. Coll., Council Bluffs, Ia.
[11] Graduate pharmacist; 25 years pharmacist; 3 years in Hahn.
[12] 2 years in N. Y. Hom.; 1 year in Indianapolis Eclectic Med.; 1 year in Hahn., Chicago.
[13] 1 year preceptor; 1 year in Univ. of Minnesota; 2 years in Hahn., Chicago.
[14] 2 years in Hahn.; 1 year in P. and S., Chicago; 1 year preceptor.
[15] 3 years in Chicago Hom.; 1 year in Hahn.

CHICAGO HOMŒOPATHIC MEDICAL COLLEGE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 17, 1895, to March 17, 1896. No. of weeks, 26. Matriculants, 171. Graduates, 67. Commencement, March 17, 1896.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Alton, W. E.	Esterville, Ia.	32	Dr. R. W. Salisbury	4
Anderson, N.	Lincoln, Neb.	32	Dr. J. Shelby	4
Andrews, R. B.	Belvidere, Ill.	23	Drs. Whitman & Swift.	4
[1]Armstrong, C. A.	Palmyra, Ont	26	Dr. J. H. Holmes	4
Bartlett, H. G.	New Plymouth, O.	26	Dr. J. S. Hunt	4
Bates, W. L.	Nevada, Ia.	29	Dr. J. L. Winsett	4
[2]Best, E. E.	Park Ridge, Ill.	34	Dr. J. H. Crippen	5
Biddle, J. T.	Carmichaels, Pa.	27	Dr. S. E. Winget	4
[3]Brown, C. T.	Cedar Rapids, Ia.	29	Dr. W. A. Hubbard	4
Cowperthwaite, J. E.	Chicago, Ill.	23	Dr. A. Cowperthwaite	4
Crandall, A. M.	West Union, Ia.	25	Dr. J. S. Eaton	4
Cromwell, E. G.	Wilmington, Ill	21	Dr. F. S. Cromwell	4
[4]Curtis, C. C.	New York, N. Y.	55	Dr. J. R. Kippax	24
Davis, E. G.	Crowfordsville, Ind.	25	Dr. J. N. Taylor	5
Dueringer, H. W.	Chicago, Ill.	27	Dr. J. Dal	4
Evans, F. B.	Golden City, Mo.	24	Dr. C. C. Hankins	4
[5]Fallis, C. W.	Burlington, Ia.	35	Dr. J. R. Kippax	14
Fash, M. H.	Chicago, Ill.	33	Dr. C. M. Beebe	6
Faulkner, L.	Austin, Ill.	22	Dr. J. A. Campbell	5
Fitz-Patrick, G.	Salem, O.	23	Dr. W. H. Thompson	5
Fouser, G. G.	Joliet, Ill.	26	Dr. A. R. Fouser	5
[6]Fulton, J. M.	Atlantic, Iowa.	30	Dr. A. P. Macomber	5
[7]Geiger, C. W.	Paxton, Ill.	24	Dr. E. M. Miller	4½
[8]Good, DeW. R.	Elkhart, Ind.	24	Dr. H. A. Mumard	4
Gordin, S. E.	Gladstone, O.	23	Dr. A. A. Mathew	4
[9]Greiner, C. C.	Bowling Green, O.	33	Dr. F. W. Rogers	4
Greiner, F. W.	Muskegon, Mich.	33	Dr. J. Mabts.	4
Guy, H. J.	Bellefontaine, O.	25	Dr. J. H. Wilson	6
Harkness, H. C.	Springfield, Pa.	25	Dr. E. M. Cornell	4
Hawley, O. S.	Osage, Ia.	35	Dr. J. W. Barrett	4
Hermetet, J. W.	Rushville, Ill.	24	Dr. M. Ayers	4
Holland, A. S.	Chicago, Ill.	53	Dr. E. L. Smith	7
Holloway, S. S.	La Porte, Ind.	29	Dr. A. L. Holloway	4½
Hotchkin, W. F.	Tinley Park, Ill.	33	Dr. B. L. Hotchkin	4½
[10]Leonard, A. C.	Pompey, N. Y.	22	Dr. O. G. Dibble.	5
Luton, L. S.	St. Thomas, Ont.	21	Dr. L. Luton	4
Matter, O. E.	Freeport, Ill.	24	Dr. R. F. Hayes	4½
McBurney, B. A.	Sandy Lake, Pa.	23	Dr. L. R. Heath.	4
[11]Myrick, A. E.	Anamora, Ia.	26	Dr. F. S. Aby	4
Nielsen, C. S.	Cedar Falls, Ia.	22	Dr. T. Nielsen	4
[12]Palmer, E. E.	Ottawa, Ill.	29	Dr. H. M. Bascom	9
Patton, W. M.	Montreal, Quebec.	34	Dr. H. M. Patton	4½
Payne, C. W.	Mt. Pleasant, Ia.	23	Drs. Smith and Linn	4
Plank, T. H.	Chicago, Ill.	23	Dr. M. M. Thompson	4
Plimpton, W. M.	Dennison, Ia.	26	Dr. E. F. Winsett	4
Rand, S. C.	Baraboo, Minn.	30	Dr. W. H. Riley	5
Reay, G. R.	Wilmington, Ill.	21	Dr. P. I. Cromwell.	4
Reichardt, F. E.	Chicago, Ill.	31	Dr. A. Rasmussen	4
[13]Riddle, D. T.	Topeka, Kan.	40	Dr. J. R. Kippax	8
Roberts, B. T.	Morgan Park, Ill.	31	Dr. N. M. Collins	5
Rose, J. J.	Chicago, Ill.	33	Dr. H. F. Beebe	4
Shannon, E. R.	Rochester, N. Y.	26	Dr. W. A. Keegan	4
Smith, E. S.	Chicago, Ill	40	Dr. H. O. Munson	4
Smith, M. S.	La Porte, Ind.	34	Dr. W. B. Blackstone	4½

CHICAGO HOMŒOPATHIC MEDICAL COLLEGE—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Smith, S. D	Rushville, Ill	25	Dr. M. Ayers	4
Snell, F. H	Charlotte, Mich	28	Dr. C. T. Hood	4
[14]Spinney, E. W	Reed City, Mich	24	Dr. A. B. Spinney	4
[15]Stephens, C. N	Hot Springs, Ark	23	Dr. Chas. Dake	5
[16]Stocks, A. L	Chicago, Ill	24	Dr. B. L. Paine	4
Swan, W. B	Topeka, Kan	31	Dr. C. F. Menninger	4½
Swartz, J. E	Freeport, Ill	44	Dr. A. E. Smith	5
Tuttle, H	Burlington, Pa	28	Dr. E. M. Cowell	4
Walker, C. A	Lake Geneva, Wis	23	Dr. W. H. McDonald	4
Ward, S. H	Gibson City, Ill	21	Dr. F. O. Cutler	4
Webb, H. P	Chicago, Ill	28	Dr. J. P. Henderson	4
Wiltshire, J. W	Chicago, Ill	24	Dr. C. T. Hood	4½
[17]Winter, J. H	Philadelphia, Pa	25	Dr. E. M. Tuttle	4

[1] 3 courses in Hom. Dept. Univ. of Michigan; 1 course in Chicago Hom. Med. Coll.
[2] 2 courses in Hom. Dept. Univ. of Iowa; 1 course in Chicago Hom. Med. Coll.
[3] 2 courses Hom. Dept, Univ. of Iowa; 1 course in Chicago Hom. Med. Coll.
[4] 2 courses in Hahn. Med. Coll., Chicago; 1 course in Chicago Hom. Med. Coll.
[5] 2 courses in Coll. Phys. and Surg., Chicago: 1 course in Chicago Hom. Med. Coll.
[6] 2 courses in Hom. Med. Dept. Univ. of Iowa; 1 course in Chicago Hom. Med. Coll.
[7] 2 courses in Hom. Dept. Univ. of Iowa; 1 course in Chicago Hom. Med. Coll.
[8] 2 courses in Hering Med. Coll.; 1 course in Chicago Hom. Med. Coll.
[9] 3 courses in Chicago Hom. Med. Coll.; 1 course in Rush Med. Coll.
[10] 2 courses in Hom. Dept., Univ. of Michigan; 1 course in Chicago Hom. Med. Coll.
[11] 2 courses in Hom. Dept. Univ. of Iowa; 1 course in Chicago Hom. Med. Coll.
[12] 3 courses in Chicago Med Coll.; 1 course in Chicago Hom. Med. Coll.
[13] 2 courses in Med. Dept. Wilamette Univ., Oregon; 1 course in Chicago Hom. Med. Coll.
[14] 3 courses in Hom. Dept. Univ. of Michigan.; 1 course in Chicago Hom. Med. Coll.; 1 course Baltimore Med. Coll.
[15] 2 courses in Chicago Hom. Med. Coll.; 1 course in Coll. Phys. and Surg., Chicago.
[16] 1 course in Hahn. Med. Coll., Chicago; 1 course Chicago Hom. Med. Coll.
[17] 2 courses in Hahn. Med. Coll., Philadelphia; 1 course in Chicago Hom. Med. Coll.

HERING MEDICAL COLLEGE OF CHICAGO, ILL.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.

Session, October 2, 1895, to April 3, 1896. No. of weeks, 26. Matriculants, 65. Graduates, 19. Commencement, April 11, 1896.

Atkins, Jessie B	Clarkesville, Tenn	32	Dr. Chas. G. Wilson	4
Baute, Joseph A	Somerset, Ky	27	Dr. J. A. Tomhagen	4
Burgess, Margaret E	Philadelphia, Pa	21	Dr. J. A. Tomhagen	4
[1]Carpenter, A. H	Albion, Mich	30	Dr. T. S. Hoyne	4
Ellison, Edward E	Alton, Ill	31	Dr. Wm. H. Enos	4
[2]Ford, John E	Iowa City, Ia	28	Rush Med. Coll., Chi	4
[3]Fellows, Antoinette K	Chicago, Ill	50	Dr. Sara B. Armstrong	4
[4]Hoyt, Gordon W	Monroe, N. Y	23	Dr. M. W. Townsend	4
[5]Jerome, Frances S	San Francisco, Cal	32	Hahn. Med. Coll., S. F.	4
Kirchbaum, Philip E	Chattanooga, Tenn	27	Dr. J. W. Kirchbaum	4
Leipold, Wm. C	Council Bluffs, Ia	33	Dr. A. P. Hauchett	4
Matthews, Calvin C	Milford, Ind	39	Faculty	4
McClelland, Wm. A	Chicago, Ill	31	Faculty	4
Nahm, Ida M	Chicago, Ill	30	Dr. L. C. Fritts	4
Page, Wm. B	Elkhart, Ind	25	Dr. S. D. Ebersole	4
Scholes, Lydia C	Chicago, Ill	41	Dr. Blouke	4
Wilson, Theodora B	Montclair, N. J.	29	Dr. C. W. Butler	4

HERING MEDICAL COLLEGE OF CHICAGO, ILL.—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Winslow, T. H.	New York City.	25	Dr. T. M. Dillingham.	4
Wieland, Frank G., Ph.B.	Plainfield, N. J.	26	Dr. E. Rushmore.	4

[1] 1 course in Hahn., Chicago; 2 courses in Hering.
[2] 2 courses in Rush Med. Coll., Chicago; 1 course in Hering Med. Coll.
[3] 1 course in Hahn., Chicago; 1 course in Women's Med. Coll.; 2 courses in Hering Med. Coll.
[4] 1 course in Syracuse Univ. Coll. of Med.; 2 courses in Hering Med. Coll.
[5] 2 courses in Hahn., of California; 1 course in Hering.

NATIONAL MEDICAL COLLEGE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 1, 1895, to March 28, 1896. No. of weeks, 28. Matriculants, 115. Graduates, 25. Commencement, March 28, 1896.

Anda, Thorwald	Illinois	24	Dr. T. Neilson.	5
Allen, R. O.	Wisconsin	27	Dr. C. S. Fries	4
Arndt, A	Illinois	56	National Medical Coll.	18
[2]Ayers, Annetta, B.L.	Illinois	25	Dr. P. S. Replogle	5
[3]Boone, Chas. M., M.B.	Wisconsin	30	National Medical Coll.	5
[4]Brown, T. F., B.S.	Illinois	25	Dr. D. Duncan	6
Duncan, Eva, B.S.	Iowa.	24	Dr. F. Duncan.	5
Duncan, E. M., B.S.	Iowa.	32	Dr. T. C. Duncan	4
Duncan, Geo. B.	Iowa.	38	Dr. C. Knickerbocker.	4
Fish, A. S., B.S.	Illinois	38	Dr. T. C. Duncan	10
[5]Gleitzman, E., Ph.B.	Germany	27	Dr. C. C. Bernard	5
[6]Greiner, P., B.S.	Illinois	28	Dr. J. C. Bennett	5
[7]Henrickson, J.	Illinois	33	National Medical Coll.	5
Johnson, M. S.	Illinois	35	Dr. J. H. S. Johnson.	6
Jorgens, J. E.	Minnesota	23	Dr. W. H. Leonard	4
[8]Kimball, G. W.	Illinois	29	Dr. C. M. Glass	6
[9]Klasznisky, C.	Illinois	56	Dr. J. H. S. Johnson.	30
[10]Kuznik, M	Germany	40	Dr. C. C. Bernard	13
Merrell, H. H.	Massachusetts.	29	Dr. W. M. W. Davison.	8
[11]Price, J. R., Ph.D.	Illinois	44	National Medical Coll.	20
[12]Prouty, C. B.	Illinois	45	Dr. J. J. Thompson.	6
Saunders, C. B., B.S.	Illinois	28	Dr. G. F. Coutant.	6
[13]Volicos, J., A.M., B.S.	Greece.	32	Dr. T. C. Duncan	5
[14]Whitney, D. C.	Wisconsin	37	Dr. J. Campbell.	6
[15]Wilkins, J. N., Sc.D.	Illinois	53	Dr. F. B. Wilkins.	14

[1] 4 courses in Germany.
[2] 4 courses in Univ. of Illinois.
[3] 4 courses in Univ. of Iowa.
[4] 5 courses in American.
[5] 3 courses in Germany.
[6] 3 courses in Harvard.
[7] 4 courses in Hahn. and Hom. Med. Coll.
[8] 5 courses in Harvey and N. W.
[9] 5 courses in Germany, Practitioner.
[10] 4 courses in Germany.
[11] 4 courses in Hahn., Bennett.
[12] 4 courses in Rush.
[13] 5 courses in Univ. of Athens.
[14] 4 courses in Phys. Med.
[15] 4 courses in Hahn. and Cal.

HOMŒOPATHIC MEDICAL DEPARTMENT, STATE UNIVERSITY OF IOWA.*

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 18, 1895, to March 10, 1896. No. of weeks, 26. Matriculants, 79. Graduates, 19. Commencement, March 10, 1896.

Borts, Harvey D.	Downey	29	Dr. G. W. Palmer.	4
Cochran, Alf. T.	Lenox.	29	Dr. A. W. Fees.	4

HOMŒOPATHIC MED. DEPARTMENT, STATE UNIV. OF IOWA—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Ebersole, Howard C.	Anamosa.	21	Dr. T. L. Hozard	4
Garton, Wm. M.	Des Moines.	21	Dr. W. H. Dickinson	4
Gray, Nettie G.	Anamosa.	28	Dr. Geo. Royal	4
Hansen, Otto A.	Sioux City.	30	Dr. Jno. Hermann	4
Hayden, Arthur S.	Wall Lake.	25	Dr. C. B. Adams.	4
Hoskins, S. B., B.A.	Sioux City.	24	Dr. H. M. Marvin.	4
Howe, Arthur W.	Potsdam, N. Y.	21	Dr. W. F. Howe.	4
Hunt, Wm. F.	Osage	23	Dr. F. W. Lee.	4
Huntoon, Gardner A.	Des Moines.	21	Dr. J. B. Olmstead.	4
McBurney, Geo. F.	Elmont	24	Dr. M. F. Howe.	4
Newbold, Reuben L.	Mechanicsville.	28	Dr. Geo. Royal.	4
Oyler, Norman D.	Downey	21	Dr. G. W. Palmer.	4
Seeley Wm. O.	Sutherland.	21	Dr. W. A Seeley.	4
Shaffer, Wm. E.	Dysart.	34	Dr. C. J. Louzeaux	4
[1]Thomas, Adelaide E.	Des Moines.	54	Dr. Geo. Royal	4
[2]Thomson, Belle M.	Traer	33	Dr. J. S. Cron.	4
Wentch, Geo. F.	Traer	36	Dr. R. M. Parsons	4

* Each student is credited with one year with preceptor.
[1] 2 years in Iowa Coll. of Phys. and Surg.; 1 year in State Univ., Iowa.
[2] 3 years in State Univ., Iowa; 1 year with preceptor.

SOUTHWESTERN HOMŒOPATHIC COLLEGE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 1, 1895, to March 30, 1896. No. of weeks, —. Matriculants, 44. Graduates, 6. Commencement, April 2, 1896.

Mills, Mrs. Mary.	Chandler, Ind.			3
Fagaley, Miss Ida.	Louisville, Ky.		Dr. Clokey	3
Fagaley, Miss Sara.	Louisville, Ky.		Dr. Clokey	3
Pinkert, Wm.	Louisville, Ky.			3
Spencer, Geo. B.	Carlisle, Ky.		Dr. M. Dills.	3
Murphy, Mrs. Sally.	Louisville, Ky.			3

KANSAS CITY HOMŒOPATHIC MEDICAL COLLEGE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 17, 1895, to February 29, 1896. No. of weeks, 26. Matriculants, 56. Graduates, 20. Commencement, March 12th.

Allcutt, Carrie D.	Missouri.	28	Dr. W. D. Foster.	4
Brown, Sam'l J.	Missouri.	29	Dr. H. W. Tuttle.	4
Brady, John J.	Missouri.	30	Dr. P. F. Peet.	4
Colburn, Jefferson M.	Kansas	35	Dr. E. L. Colburn.	4
Ellsworth, Anna E.	Kansas	30	Dr. Wm. D. Foster.	4
Enz, Elizabeth E.	Missouri.	27	Dr. A. E. Neumeister.	4
Fryer, Harry M.	Kansas	29	Dr. A. E. Neumeister.	4
Freisen, Julius.	Nebraska	47		-
Gilstrap, H. Preston.	Nebraska	25	Dr. E. L. Colburn.	4
Hancock, Avery C.	Nebraska	48	Dr. Geo. H. Neal	4
Hancock, Mary B.	Nebraska	34	Dr. Geo. H. Neal	4
Mills, Earnest P.	Missouri.	26	Dr. C. J. Burger.	4

KANSAS HOMŒOPATHIC MEDICAL COLLEGE—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Littlefield, Chas. W.	Kansas	36	Dr. L. S. Cynolds	
Müller, Herman R.	Nebraska	22	Dr. Casper Wegman	4
Nevitt, Rollin R.	Missouri	25	Dr. Wm. H. Aplin	4
St. John, Chas. H.	Kansas	52		
[1]Wiens, Peter	Nebraska	27	Dr. R. A. Van Allen	4
[2]Miller. Robert P.	Missouri	27	Faculty	4
[3]Ruhl, Noah B.		50	Dr. C. W. Carter.	
[4]Wise, Julius C.	Missouri	44		

[1] 2 courses in Kansas City Hom. Med. Coll.; 1 course in Pulte Med. Coll., Cincinnati, O.
[2] 2 courses in Kansas City Hom. Med. Coll.; 1 course in Med. Dept. State Univ., Iowa.
[3] 2 courses in Kansas City Hom. Med. Coll.; 1 course in Hahn, Chicago, Ill.
[4] 1 course in Kansas City Hom. Med. Coll.; is a graduate of Kansas City Hos Coll. of Med., Kansas City, Mo.

SOUTHERN HOMŒOPATHIC MEDICAL COLLEGE OF BALTIMORE, MD.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 30, 1895, to April 5, 1896. No. of weeks, 25. Matriculants, 32. Graduates, 4. Commencement, April 9, 1896.

Hammond, W. Nelson	West Chester, Pa.	22	Dr. Milton Hammond.	3
[1]Robbins, Ansel J., M.D.	Washington, D. C.	36	Georgetown Univ.	4
Roope, Susan Abigail	Richmond, Va.	42	Dr. E. C. Williams	4
[2]Stansbury, Henry H.	Hampstead, Md.	25	Maryland University	3

[1] 3 years in Georgetown Univ.; 1 year in Southern Hom. Med. Coll.
[2] 1 year in Maryland Univ.; 2 years in Southern Hom. Med. Coll.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 10, 1895, to June 3, 1896. No. of weeks, —. Matriculants, 183. Graduates, 33. Commencement, June 3, 1896.

Allen, Edward E., Ch.B.	Charlestown, Mass.	29	B. U. School of Med.		4
Amsden, Henry H., Ch.B.	Penacook, N. H.	24	"	"	4
Barney, Jennie Sarah	Andover, N. H.	35	"	"	4
Burpee, Carroll Colby	Malden, Mass.	23	"	"	4
[1]Byington, Helene C.	Port Hope, Ont.	37	"	"	4
Chesmitt, Arthur Allan	Pugwash, N. S.	26	"	"	5
Cobb, George Herbert	Minneapolis, Minn.	24	"	"	4
Cohill, David Y., M.B.	Salem, Mass.	32	"	"	4
[2]Corey, H. S., A.B., Ch.B.	Richmond, Va.	25	"	"	4
Dews, Frederick G.	Boston, Mass.	23	"	"	4
Ford, Mary Etta	Allegheny, Pa.	35	"	"	4
Gould, Chester Harlow	Brockton, Mass.	25	"	"	4
Hayford, Herbert Scott	Portsmouth, N. H.	22	"	"	4
Hoskins, Bertha Ladd	Hartford, Conn.	30	"	"	4
Huch, Marie Estelle	Austin, Tex.	30	"	"	5
Kenney, Hattie Eliza	Cohoes, N. Y.	23	"	"	4
McGovern, Catherine E.	Boston Mass.	22	"	"	4
Miner, Jennie Theodate	Worcester, Mass.	36	"	"	4

BOSTON UNIVERSITY SCHOOL OF MEDICINE—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Montague, C. E., A.B.....	Boston, Mass.....	30	B. U. School of Med.....	4
Morse, Harry Martin..	Nashua, N. H.....	24	" "	4
[3]Müller, Laura, M.D.....	Montreal, Can.....	42	" "	4
Mulliner, Mary Rees.....	Camden, N. J.....	37	" "	4
Nesmith, Edwin C..	Portland. Me.....	23	" "	4
Newton, William Curtis...	Crescent Beach, Mass..	22	" "	4
Parmenter, K. R., Ch.B....	So. Sudbury, Mass.....	22	" "	4
Patterson. Alice Z.....	Everett, Mass.....	22	" "	4
Pearce, Mary Alice.....	Boston, Mass.....	26	" "	4
Phillips, William C.	W. Upton, Mass.....	34	" "	4
Robbins, Frederick C.....	Dorchester, Mass.....	22	" "	4
Skelton, Grace Evelyn.....	So. Boston, Mass.....	23	" "	4
Soule, William L., A.B....	Dorchester, Mass.....	25	" "	4
Swope, Dalva H., M.B.....	Blue Springs, Neb.....	29	" "	4
West, Nellie.....	Norwich, Coun.	36	" "	4
*Capelle, Charles S.....	Dorchester.....	23	" "	3
†Foss, Percy Harold.....	Somerville.....	25	" "	3

* Bachelor of Medicine. † Bachelor of Surgery.
[1] 2 courses in Toronto Women's Med. Coll.; 2 courses in Boston Univ. School of Med.
[2] 3 courses in Boston Univ. School of Med.; Richmond Coll., A.B.
[3] 1 course in Boston Univ. School of Med.; 3 courses in Hahn. Med. Coll., Chicago.

HOMŒOPATHIC MEDICAL COLLEGE, UNIVERSITY OF MICHIGAN.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 1, 1894, to June 25, 1895. No. of weeks, 39. Matriculants, 16. Graduates, 1. Commencement, June 25th.

Atterbury, W. H.....	Kalamazoo.....		....	

COLLEGE OF HOMŒOPATHIC MEDICINE AND SURGERY OF THE UNIVERSITY OF MINNESOTA.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 10, 1895, to June 5, 1896. No. of weeks, 32. Matriculants, 31. Graduates, 8. Commencement, June 5, 1896.

Balcom, George G.....	Grand Rapids, Mich...	28	Univ. of Minnesota.....	3
Beck, James F.....	Minneapolis, Minn.....	25	" "	3
Bingham, Hiram H.....	Babcock, Wis.....	21	" "	3
Hamlin, George B.....	Minneapolis, Minn.....	25	" "	3
Hammond, Asa J., A.B....	Lake City, Minn.....	26	" "	3
Phelps, Alva G.....	St. Paul, Minn.....	26	" "	3
Reineke, George F.....	Deerfield, Minn.....	25	" "	3
Shipman, Louis D.....	Minneapolis, Minn.....	22	" "	3

HOMŒOPATHIC MEDICAL COLLEGE OF MISSOURI.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, October 1, 1895, to April 2, 1896. No. of weeks, 27. Matriculants, 74. Graduates, 18. Commencement, April 2, 1896.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Armstrong, C. Roy	Thorntown, Ind	22	Dr. R. B. Noe	3
Bauer, William H	Riverton, Neb	26	Dr. L. B. Julian	3
Barnard, A. Leroy	St. Louis, Mo.	35	Dr. F. W. Grundmann	3
Benson, Samuel A	Sparta, Ill	29	Dr. D. M. Gibson	3
Burkhardt, E. W	Waldo, Wis	29	Dr. P. Brickbauer	3
Carriere, Victor A	St. Louis, Mo.	22	Dr. C. L. Carriere	3
Ellerbroeck Edw	St. Louis, Mo.	40	Hom. Med. Coll. of Mo.	3
Gessner, Fred	St. Louis, Mo.	63	Dr. F. W. Grundmann	3
Hercheuroeder, L. C	St. Louis, Mo.	24	Dr. L. C. McElwee	3
[1]Isenberg, Henry G	Tea, Mo.	22	Dr. Chas. Mellies	3
[2]Koelle, John W	Booneville, Mo.	26	Dr. C. Berger	3
[3]MacKenzie, Henry D	Dunedin, N. Z.	26	Dr. L. C. McElwee	4
Merk, Fred. W	Woollam, Mo.	25	Dr. Edw. Mellies	3
Morris, William J	Edina, Mo.	37	Hom. Med. Coll. of Mo.	3
Palisch, Gotthilf A	Frohna, Mo.	21	Dr. Paul A. Zilliken	3
Reily, Walter E	Bowling Green, Mo.	27	Dr. W. B. Ellis	3
Walker, Jennie	Lerna, Ill.	28	Dr. R. N. Leitch	3
[4]Keeler, Maud Gray	St. Louis, Mo.	38	Wom. Med. Coll., St. L.	3
Zilliken, Frank	Chester, Ill.	22	Dr. N. Zilliken	3

[1] 2 courses in Hom. Med. Coll. of Missouri; 1 course in Marion Sims Coll.
[2] 3 courses in Hom. Med. Coll. of Missouri.
[3] 1 course in Univ. of New Zealand; 3 courses in Hom. Med. Coll. of Missouri.
[4] 2 courses in Woman's Med. Coll.; 1 course in Hom. Med. Coll. of Missouri.

NEW YORK HOMŒOPATHIC MEDICAL COLLEGE AND HOSPITAL.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions See foot-notes.
Session, October 1, 1895, to April 18, 1896. No. of weeks, 29. Matriculants, 121. Graduates, 29. Commencement, April 30, 1896.

Allen, Herbert Coleman	Brooklyn, N. Y.	20	Dr. A. H. Allen	3
Barnes, Frank H	Sanquoit, N. Y.	23	Dr. A. S. Osborne	3
Beil, August	New York City, N. Y.	32	Dr. H. F. Rich	3
[1]Boles, William Artemas	Knoxville, Tenn.	24	Dr. H. G. Bayless	3
Conklin, Ray Cleveland	Fairport, N. Y.	24	Dr. W. F. Clapp	3
Devol, Edmund M	New Albany, Ind	24	Dr. F. A. Mitchell	3
Dowkoutt, George Harry	New York City, N. Y.	26	Dr. G. D. Dowkoutt	3
Evans, Edward Ellis	Pittsburg, Pa	23	Dr. G. D. Dowkoutt	3
Evans, George Edwin	Rochester, N. H	27	Dr. R. V. Sweet	3
Francisco, D. E.	Middletown, N. Y.	24	Dr. E. Fancher	3
Gale, Frank J	Winchester, N. H	25	College	3
Gennerich, Charles	New York City, N. Y.	20	Dr. A. J. Richardson	4
Harris, James Elbert	New York City, N. Y.	20	Dr. J. W. Harris	3
Jones, Robert Mortimer	Bridgeport, Conn.	25	Dr. H. P. Cole	3
Kidder, Hugh, A.B.	Owego, N. Y.	26	Dr. H. W. Paige	3
Lacina, Anthony M	New York City, N. Y.	27	Dr. F. H. Dreyer	3
Lemmerz, Theodore H	Jersey City, N. J.	25	Dr. S. W. Clark	3
Lloyd, Ralph Irving	Poughkeepsie, N. Y.	20	Dr. C. E. Lane	3
Mitchell, Charles A	New York City, N. Y.	25		3
Noyes, Ward Raymond	Sutton, Vt.	24	Dr. G. W. Richardson	3

NEW YORK HOMŒOPATHIC MED. COLLEGE AND HOSPITAL—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Ohly, Carl Herman, Ph.D.	New York City, N. Y.	36	Dr. T. F. Allen	3
Pettit, Gaylord Joel	Lockport, N. Y.	27	Dr. S. W. Hurd	3
[2]Rabe, Rudolph F. Jr.	Hoboken, N. J.	23	Dr. C. C. Howard	3
Roberts, Herbert Alfred	Derby, Conn.	28	Dr. W. S. Hulbert	3
Seaman, Clayton Welch	So. Westerlo, N. Y.	26	Dr. D. Welch	3
Thirlwall, Max. A. C.	Somersetshire, Eng.	21	Dr. F. A. Bigelow	3
Wentworth, William E.	Rochester, N. H.	21	Dr. R. V. Sweet	3
Willard, Harry Stearns	Ridgewood, N. J.	20	Dr. G. M. Ockford	3
Zeckhausen, Harry	New York City, N. Y.	31	Dr. G. D. Dowkoutt	3

[1] 1 session in Southwestern Hom. Coll., Louisville, Ky.; 2 sessions in New York Hom. Med. Coll. and Hos.
[2] 1 course in Coll. Phys. and Surgs., New York City; 2 courses in New York Hom. Med. Coll. and Hos.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session October 2, 1895, to April 17, 1896. No. of weeks, 26. Matriculants, 25. Graduates, 5. Commencement, May 4, 1896.

Barnes, Roxana Keene	New York City, N. Y.	36	Institution	5
Hale, Harriet W.	Brooklyn, N. Y.	26	"	4
Garchrant, Lillian	Orange, N. J.	24	"	4
Hughes, Harriet	New York City, N. Y.	24	"	4
Rook, Stella G.	Stamford, Conn.	23	"	4

CLEVELAND UNIVERSITY OF MEDICINE AND SURGERY.

Names unmarked indicate that the regular course was pursued at this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 25, 1895, to March 24, 1896. No. of weeks, 24. Matriculants, 152. Graduates, 45 medical; 6 dental. Commencement, March 24, 1896.

Ames, F. P.	Rockland, O.	42	Dr. C. L. Muhleman	4
Andrews, L. M.	Warsaw, N. Y.	24	Dr. J. E. Slaught	4
Bingham, C. A.	Cleveland, O.	26	University	4
Benson, Clara M.	Cleveland, O.	30	Dr. J. Schneider	4
Cross, W. C.	Niagara Falls, N. Y.	22	Dr. J. W. Hodge	4
Cox, J. R.	New Castle, Pa.	27	Dr. K. B. Waite	4
[1]Correll, Eva A.	Cleveland, O.	30	University	4
Cowden, J. L.	Lowellville, O.	28	Dr. J. N. Cowden	4
Deeley, S. E	Sandusky, O.	22	Dr. T. W. Morley	4
Davis, F. F.	Seventy-Six, Pa.	21	Dr. K. B. Waite	4
[2]Ellis, L. A.	Van Wert, O.	30	Dr. W. C. Hastings	4
Frawley, J. T.	Cleveland, O.	29	University	4
Gaston, J. E.	Cleveland, O.	26	Dr. J. K. Sanders	4
Gill, L. T.	Gibsonburg, O.		University	4
Hornberger, Edith R.	Cleveland, O.	23	Dr. E. J. Wunderlich	4
Hunter, Mary G.	Cleveland, O.	41	Dr. W. E. Gill	4
Hawkins, Ellen F.	Cleveland, O.	50	Dr. J. C. Jump	4
[3]Huyck, C. J.	Exeter, N. Y.	21	Dr. A. D. Getman	4
[4]James, H. W.	Essex, Mass.	24	Dr. Edwin Fanchon	4
[5]King, Dale M.	St. Thomas, Ont.	21	Dr. Luton	4

CLEVELAND UNIVERSITY OF MEDICINE AND SURGERY—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Koontz, E. J.	Wadsworth, O.	24	Dr. W. B. Hinsdale	4
Kaple, J. D.	Plainsville, N. Y.		University	4
[6]Mohn, D. L.	Massillon, O.	27	Dr. S. S. Holtz	4
Martin, A. H.	Baldwindsville, N. Y.	28	Dr. L. Martin	4
McBride, J. B	Atlantic, Pa.	28	Dr. H. D. Champlin	4
Merrill, C. E	Sayre, Pa.	21	Dr. C. A. Beach	4
Nobles, N. T. B.	Cleveland, O.	22	Dr. H. M. Dogfoot	4
Osgood, W. W.	Kent, O.	26	Dr. H. M. Page	4
O'Donnell, H. J.	Pittsburg, Pa.	24	Dr. E. E. Briggs	4
Ralston, Rose A.	Cleveland, O.	35	University	4
Russell, F. A.	Kent, O.	21	Dr. Marion Squire	4
Riemenschneider, E. W.	Cleveland, O.	22	University	4
Siemon, L. E.	Champaign, Ill.	27	Dr. W. C. Weber	4
Staples, H. F.	Solon, O.	25	Dr. Dudley Smith	4
[7]Smith, G. B.	Pittsburg, Pa.	24	University	4
Steer, W. F	Cleveland, O.	25	Dr. W. M. Follett	4
Tubman, T. H.	Cleveland, O.	21	Dr. G. W. Meridith	4
Totten, R. O.	Cleveland, O.	27	Dr. A. F. Baldinger	4
Teed, Isa C.	Chagrin Falls, O.	21	Dr. C. A. Beach	4
[8]Von Fried, Albert.	Cleveland, O.	23	Dr. K. B. Waite	4
Wallace, T. C., Jr.	Allegheny, Pa.	25	Dr. T. C. Wallace, Sr.	4
Watson, F. C.	Auburn, Me.	24	Dr. A. Salls	4
Webster, C. G.	Norwalk, Conn.	23	Dr. W. E. Gill	4
York, G. T.	Cleveland, O.	25	Dr. G. B. Palmer	4
Young, J. W.	Bellefontaine, O.	24	Dr. J. K. Sanders	4

[1] 2 courses in Univ. of Buffalo; 1 course in Cleveland Univ. of Med. and Surg.
[2] 1 course in Starling Med. Coll.; 2 courses in Cleveland Univ. of Med. and Surg.
[3] 1 course in Cleveland Univ. of Med. and Surg.; 2 courses in New York Hom Med. Coll.
[4] 1 course in Cleveland Univ. of Med. and Surg.; 2 courses in New York Hom. Med. Coll.
[5] 1 course in Ann Arbor; 2 courses in Cleveland Univ. of Med. and Surg.
[6] 2 courses in Cleveland Univ. of Med. and Surg.; 1 course in Chicago Hom. Coll.
[7] 1 course in Cleveland Univ. of Med. and Surg.; 2 courses in Cleveland Med. Coll.
[8] 1 course in Cleveland Univ. of Med. and Surg.; 2 courses in Cleveland Med. Coll.

CLEVELAND MEDICAL COLLEGE, CLEVELAND, O.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 18, 1895, to March 18, 1896. No. of weeks, 26. Matriculants, 123. Graduates, 31. Commencement, March 18, 1896.

Shafer, J. A.	New Sheffield, Pa.	24	Dr. O. C. Engle	3
Shafer, C. D.	Warren, O.		Dr. J. F. Shafer	3
Haefeli, L. C.	Cleveland, O.		Dr. W. T. Miller	3
Bean, H. H.	Cleveland, O.	24	Dr. J. L. Brem	3
Venen, W. J.	Glenville, O.	23	Dr. C. A. Hall	3
Pass, M. D.	Cleveland, O.	30	Dr. W. T. Miller	3
Smith, A. A.	Berea, O.	24	Dr. S. F. Pelton	3
Johnson, B. L.	Kenton, O.	21	Dr. A. J. Crane	3
Varner, Anna D.	Alexandria, Pa.	25	Dr. H. C. Chisolm	3
Chapman, H. B.	E. Cleveland, O.		Dr. G. H. Quay	3
[1]Croft, Effie J.	Detroit, Mich.	31	Dr. Wm. F. Miller.	3
Johnston, J. E.	Logan's Ferry, Pa.	30	Dr. G. A. Meuller	3
Smith, F. D.	Granger, O.	27	Dr. O. D. Childs	3
Hopkins, G. W.	Cleveland, O.	23	Dr. G. J. Jones	3
Calvert, J. W.	New Sheffield, Pa.		Dr. G. S. Boyd	3

CLEVELAND MEDICAL COLLEGE, CLEVELAND, O.—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Boulee, O. H.	Cleveland, O.	28	Dr. R. J. Cummer	3
Wall, W. R.	Willoughby, O.		Dr. Wm. Revall, Sr	3
Kittle, Richard	Cleveland, O.	27	Dr. E. F. Gifford	3
Lehman, J. S	Midway, Ky.	24	Dr. H. C. Kasselman	3
Doutt, A. M.	Tionesta, Pa.	39	Dr. A. P. Steele	3
Henninges, W. H.	Cleveland, O.	28	Dr. W. A. Tims	3
Bickle, Miss B. A.	Germany	20	Dr. D. B. Humpf	3
Vredenburgh, E. I.	Oil City, Pa.		Dr. Sellen	3
Ramsey, H. E.	Pittsburg, Pa.	26	Dr. J. Harner	3
Nyvall, H.	Cleveland, O.		Dr. C. C. True	3
Van Hee, John.	Sodus, N. Y.		Dr. E. J. Whittleton	3
Hassenflue, J. W.	Cleveland, O.	21	Dr. E. A. Jewitt	3
Ewing, A. E.	Mahan, Pa.	26	Dr. W. T. Miller	3
Ellis, W. P.	Conneaut, Pa	25	Dr. G. H. Cole	3
Littell, H. F.	Cleveland, O.	36	Dr. W. T. Miller	4
Bacon, C. L.	Cleveland, O.	42	Dr. Wm. H. Gifford	4

[1] 1 course in Ann Arbor: 2 courses in Cleveland Med. Coll.

PULTE MEDICAL COLLEGE.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 18, 1895, to March 24, 1896. No. of weeks, 26. Matriculants, —. Graduates, —. Commencement, —.

Bass, S. Q.	Milford, O.	23	Dr. H. W. Hawley	3
Biddle, H. N.	Cincinnati, O.	24	Faculty	3
Bowers, I. H.	Indianapolis, Ind.	35	Faculty	15
Clayton, S. D.	Dayton, O.	22	Dr. Wm. Webster	4
Gibbs, F. L.	Salem, O.	25	Dr. H. W. Thompson	3
Henshaw, J. C.	Sharon, Pa.	22	Dr. Hoyt	3
Hubbs, R. S.	Butler, O.	23	Dr. R. A. Hubbs	3
McCrary, D. O.	Mobile, Ala	27	Dr. A. P. Myers	5
Pryor, L. R.	Eaton, O.	23	Dr. W. E. Prior	4
Smith, W. H.	Covington, Ky.	22	Dr. Furber	3
Snow, W. S.	Cincinnati, O.	23	Dr. H. Snow	4
Turner, Miss E.	Mobile, Ala	25	Dr. Geo. G. Lyon	4
[1]Webster, O. B.	Lake Helen, Fla.	25	Dr. H. C. Williamson	4
Williams, C. F.	Cincinnati, O.	24	Faculty	4

[1] 1 course in Univ. of Michigan; 2 courses in Pulte.

HAHNEMANN MEDICAL COLLEGE OF PHILADELPHIA, PA.

Names unmarked indicate that the regular course was pursued in this college. Names numbered indicate that courses were taken in other institutions. See foot-notes.
Session, September 30, 1895, to April 28, 1896. No. of weeks, 30. Matriculants, 275. Graduates, 75. Commencement, May 5, 1896.

Archibald, Francis E.	Philadelphia, Pa.	25	Dr. H. L. Northrop	4
Arthur, Alexander Beck	Philadelphia, Pa.	21	Dr. C. A. Conover	4
Armstrong, William H.	Rockland, Me.	33	Dr. W. V. Hanscom	4
Black, Allan Brown	Swedesboro, N. J.	21	Dr. O. Grimshaw	4

HAHNEMANN MEDICAL COLLEGE OF PHILADELPHIA, PA.—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years.
Blackburn, Edwin C.....	Bedford, Pa.....	22	Dr. A. O. Taylor.....	4
Blackley, Carl Alvin.....	Lockport, N. Y..... ...	25	Dr. S. W. Hurd.....	4
Brooke, John A., A.B.....	Glenside, Pa.....	21	Dr. J. E. Peters.....	3
Casselberry, John Logan...	Morgantown, W. Va...	22	Dr. M. L. Casselberry...	5
Cameron, Hugh Angus.....	Dumfermline, Scotl'd.	26	Dr. J. T. Kent.....	5
Chadwick, John Gartside.	Chester, Pa.....	21	Dr. R. P. Mercer.....	5
Chaffee, Ralph Waldo.....	Syracuse, Pa.....	21	Dr. B W. Sherwood.....	4
Chandler. C. De L, B.S....	Lincoln, Neb.....	24	Dr. E. B. Finney.....	5
Clarke, Thomas Walter....	Philadelphia, Pa.....	22	Dr. W. M. Griffith.....	5
Comstock, William C.....	Lockport, N. Y.....	23	Dr W. P. Weaver.....	4
Cooper, Thomas Oliver....	Wilmington, Del.....	40	Dr. W. E. Sherwood.....	3
Davies, Lemuel E.....	Scranton, Pa.....	27	Dr. W. G. McCollough..	5
Dedrick, Thomas S., Jr....	Washington, N. J.....	29	Dr. F. P. McKinstry....	4
Douglas, Fullerton J.....	Philadelphia, Pa.....	21	Dr. J. E. James.....	3
Douglass, John Allen.....	McDonald, Pa.....	21	Dr. H. S. Phillips.....	4
Doyle, William Francis....	Pottsville, Pa	21	Dr. F. W. Boyer.....	3
Embly, Thomas William...	Fishk'l-on-H'd'n,N.Y.	21	Dr. J. G. Dawson.....	3
Engle Howard Missiner...	Mount Joy, Pa.....	21	Dr. F. M. Harry.....	3
Evans, Howard J.....	Atlantic City, N. J.....	37	Dr. W. B. Griggs	5
Farrington, Harvey, A.B..	Philadelphia, Pa.....	23	Dr. A. Korndœrfer.....	6
Fisher, George Singer.....	Lebanon, Pa.....	24	Dr. A. J. Reigel.....	4
Fleagle, Maurice Monroe..	Littlestown, Pa.....	25	Dr. S. B. Weaver.....	3
Grace, Harry H	Camden, N. J.....	30	Dr. W. H. Hunt.....	4
Gray, Frederick Charles...	Elizabeth, N. J.....	25	Dr. L. R. Brown.....	3
Hart, Russell Thayer.....	Philadelphia, Pa.....	22	Dr. J. H. Closson.....	4
Heaton, Earl Gates..	Baldwinsville, N. Y...	21	Dr. C. E. Heaton.....	6
Hess, Harry Peter, B.E....	Lickdale, Pa.....	23	Dr. D. P. Gerberich.....	3
Higgins, Raymond Power.	Washington, D. C.....	21	Dr. S. I. Groot.....	4
Howell, Harrison W.....	Wilmington, Del.....	22	Dr. L. Kittinger.....	4
James, David B., A.B.....	Philadelphia, Pa.....	21	Dr. J. E. James.....	4
Jenkins, George Chapin...	Philadelphia, Pa.....	21	Dr. C. V. Vischer.....	6
Klaer, Clarence.....	Stroudsburg, Pa.....	22	Dr. C. M. Brownell.....	3
Korndœrfer, Augustus, Jr.	Philadelphia, Pa.....	21	Dr. A. Korndœrfer.....	5
Leopold, Herbert P., A.B..	Allentown, Pa.....	22	Dr. P. A. Andrews.....	4
Marter, Linnæus Esher....	Philadelphia, Pa.....	21	Dr. O. S. Haines.....	3
McDowell, A. S., A.B.....	Philadelphia, Pa.....	23	Dr. D. W. Bartine.....	3
Messick, William Rodney.	Georgetown, Del.....	23	Dr. O. D. Robinson.	4
Miller, Harvey D., B.S.....	Lebanon, Pa	23	Dr. D. P. Gerberich.....	4
Morford, William Brown..	Red Bank, N. J.....	21	Dr. G. D. Fay.....	4
Nicholson, Harry S.	Pittsburg, Pa.....	26	Dr. L. H. Willard.....	4
Ormsby, William Bert.....	Elmira, N. Y.....	22	Dr. F. W. Adriance.....	3
Paxson, Richard R.....	Lahaska, Pa..... ..	27	Dr. O. H. Paxson.....	3
[1]Peet, Ernest Leland.....	Skinner's Eddy, Pa....	27	Hom. Hos. Coll., Cl'v'd.	5
Ploucher, William Allen...	Wissonoming, Pa.....	23	Dr. W. W. Nuss.....	4
Prizer, Elmer Towers.....	Kimberton, Pa.....	27	Dr. R. Farley.....	3
[2]Rauterberg, A. C., M D....	Washington, D. C.....	22	Columbia Univ., D. C...	4
Redman, John Leifried....	Philadelphia, Pa.....	21	Dr. C. H. Smith..... ...	3
Robinson, John Turner....	New Brunswick, N. J.	29	Dr. S Long.....	4
Roman, Victor Manuel.....	Jinotepe, Nicaragua...	21	Dr. D. Roman..	5
Romig, Joseph Herman...	Independence, Kan ...	23	Dr. J. W. Detwiller.....	3
Rush, John Calvin.....	Washington, N. J	40	Dr. F. P. McKinstry....	5
Simmons, Clarence W.....	Philadelphia, Pa.....	28	Dr. A. Layman.....	5
Snyder, Elwood S.....	Watsontown, Pa.....	28	Dr. H. R. Hummell.....	4
Souder, Ralph L.....	Woodstown, N. J.....	23	Dr. P. G. Souder.....	5
Smalley, Charles Fisler.....	Clayton, N. J.....	28	Dr. L. W. Flinn.....	4
[3]Stearns, John S., M.D.....	Washington, D. C.....	25	Georgetown Univ.....	4
Stitzel, J. Wakefield, M.E.	McEwinsville, Pa.....	27	Dr. H. R. Hummel.....	4
Straughn, Clinton C.....	Philadelphia, Pa.....	23	Dr. L. W. Thompson....	3

HAHNEMANN MEDICAL COLLEGE OF PHILADELPHIA, PA.—CONTINUED.

Name.	Residence.	Age.	Preceptor.	Time of Study.
				Years
McDowell, William A.....	Media, Pa.....	22	Dr. F. W. Lange.....	4
Thurston, Leon M.....	Richmond, Va.....	37	Dr. J. W. Ford.....	3
Trites, Charles Sutton.....	Philadelphia, Pa.....	21	Dr. J. C. Guernsey.....	3
Van Deursen, G. L., D.D.S.	Vernon, Tex..	28	Dr. G. E. Blackman.....	3
Wallace, Gilbert Edward..	Paulsboro, N. J.....	22	Dr. O. Grimshaw.....	3
Ware, Francis Vernon.....	Millville, N. J.....	21	Dr. C. H. Hubbard.	6
Wasgatt, Rowland John...	Ellsworth, Me...	22	Dr. H. L. Northrop.....	5
Weaver, Daniel W.....	Spring Grove, Pa.....	22	Dr. D. W. Harner.....	3
Weaver, William A.....	Beartown, Pa.....	25	Dr. H. S. Weaver	3
Whiteman, James L.....	Wilmington, Del.....	26	Dr. C. M. Allmond.....	3
Williams, Herbert F...	Tamaqua, Pa.....	23	Phila. Coll. of Phar.....	3
Woll, Albert Frederick.....	Philadelphia, Pa.....	23	Dr. W. M. Hopkin.....	3
Woodman, Robert Carlile..	Mozart, Pa.	21	Dr. C. W. Wright.....	4

[1] 1 course in Hom. Hos. Coll., Cleveland; 3 courses in Hahn.
[2] 3 courses in Columbia Univ.; 1 course in Hahn. Med. Coll.
[3] 3 courses in Georgetown Univ.; 1 course in Hahn. Med Coll.

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In July, 1843, the New York Homœopathic Physicians' Society issued invitations to the Homœopathic physicians of the United States, to meet in general convention in the city of New York for the purpose of forming a National Homœopathic Medical Society. The invitation was responded to by a considerable number of the leading homœopathic practitioners of the country, who, according to previous arrangement, convened in the Lyceum of Natural History in New York City, on the 10th day of April, 1844, the eighty-ninth anniversary of the birth of the illustrious Hahnemann.

The convention was organized by electing Constantine Hering, M.D., of Philadelphia, Pa., President; Josiah F. Flagg, M.D., of Boston, Mass., and William Channing, M.D., of New York City, N. Y., Vice-Presidents; and Henry Dunnell, M.D., Secretary.

The following resolution was unanimously adopted:

Resolved, That it is deemed expedient to establish a society, entitled "The American Institute of Homœopathy."

John F. Gray, M.D., was elected General Secretary of the Institute, and S. R. Kirby, M.D., Treasurer.

The Convention having accomplished the object for which it had assembled, on motion, adjourned, *sine die*.

Immediately after the adjournment of the Convention, on the evening of the 10th day of April, 1844, at the call of John F. Gray, M.D., General Secretary-elect, the First Session of the American Institute of Homœopathy was held. Josiah F. Flagg, M.D., Boston, Mass., was elected Chairman, and A. Gerald Hull, M.D., New York City, N. Y., Provisional Secretary.

CHRONOLOGICAL LIST OF OFFICERS.

FIRST SESSION.

(*Held at New York City, N. Y., April* 10, 1844.)

JOSIAH F. FLAGG, M.D., Boston, Mass., Chairman.
JOHN F. GRAY, M.D., New York, N. Y., General Secretary.
A. GERALD HULL, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SECOND SESSION.

(*Held at New York City, N. Y., May* 14, 1845.)

JACOB JEANES, M.D., Philadelphia, Pa., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

THIRD SESSION.

(*Held at Philadelphia, Pa., May* 13, 1846.)

S. R. KIRBY, M.D., New York, N. Y., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

FOURTH SESSION.

(*Held at Boston, Mass., June* 9, 1847.)

F. R. McMANUS, M.D., Baltimore, Md., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

FIFTH SESSION.

(*Held at New York City, N. Y., June* 14, 1848.)

WALTER WILLIAMSON, M.D., Philadelphia, Pa., Chairman.
EDWARD BAYARD, M.D., New York, N. Y., General Secretary.
R. A. SNOW, M.D., New York, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SIXTH SESSION.

(*Held at Philadelphia, Pa., June* 13, 1849.)

SAMUEL GREGG, M.D., Boston, Mass., Chairman.
ALVIN E. SMALL, M.D., Philadelphia, Pa., General Secretary.
WILLIAM P. ESREY, M.D., Springfield, Mass., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

SEVENTH SESSION.

(*Held at Albany, N. Y., June* 12, 1850.)

EDWARD BAYARD, M.D., New York, N. Y., Chairman.
ALVIN E. SMALL, M.D., Philadelphia, Pa., General Secretary.
G. W. SWAZEY, M.D., Springfield, Mass., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

EIGHTH SESSION.

(*Held at New Haven, Conn., June* 11, 1851.)

WILLIAM E. PAYNE, M.D., Bath, Me., Chairman.
G. W. SWAZEY, M.D., Springfield, Mass., General Secretary.
CHARLES G. FOOTE, M.D., New Haven, Conn., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

NINTH SESSION.

(*Held at Baltimore, Md., May* 19, 1852.)

ELIAL T. FOOTE, M.D., New Haven, Conn., Chairman.
WILLIAM A. GARDINER, M.D., Philadelphia, Pa., General Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

TENTH SESSION.

(*Held at Cleveland, Ohio, June* 8, 1853.)

RICHARD GARDINER, M.D., Philadelphia, Pa., Chairman.
WILLIAM A. GARDINER, M.D., Philadelphia, Pa., General Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Provisional Secretary.
S. R. KIRBY, M.D., New York, N. Y., Treasurer.

ELEVENTH SESSION.

(*Held at Albany, N. Y., June* 7, 1854.)

LYMAN CLARY, M.D., Syracuse, N. Y., Chairman.
S. S. GUY, M.D., Brooklyn, N. Y., General Secretary.
J. REDMAN COXE, JR., M.D., Philadelphia, Pa., Provisional Secretary.
A. S. BALL, M.D., New York, N. Y., Treasurer.

TWELFTH SESSION.

(*Held at Buffalo, N. Y., June* 6, 1855.)

C. H. SKIFF, M.D., New Haven, Conn, Chairman.
J. P. DAKE, M.D., Pittsburg, Pa., General Secretary.
A. H. BEERS, M.D., Buffalo, N. Y., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

THIRTEENTH SESSION.

(*Held at Washington, D. C., June* 4, 1856.)

G. W. SWAZEY, M.D., Springfield, Mass., Chairman.
F. R. McMANUS, M.D., Baltimore, Md., General Secretary.
J. MIDDLETON, M.D., Baltimore, Md., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

FOURTEENTH SESSION.

(*Held at Chicago, Ill., June* 3, 1857.)

J. P. DAKE, M.D., Pittsburg, Pa., Chairman.
D. S. SMITH, M. D., Chicago, Ill., General Secretary.
G. E. SHIPMAN, M.D., Chicago, Ill., Provisional Secretary.
S. S. GUY, M.D., Brooklyn, N. Y., Treasurer.

FIFTEENTH SESSION.

(*Held at Brooklyn, N. Y., June* 2, 1858.)

D. S. SMITH, M.D., Chicago, Ill., Chairman.
WILLIAM E. PAYNE, M.D., Bath, Me., General Secretary.
E. T. RICHARDSON, M.D., Brooklyn, N. Y., Provisional Secretary.
S. S. GUY, M D., Brooklyn, N. Y., Treasurer.

SIXTEENTH SESSION.

(*Held at Boston, Mass., June* 1, 1859.)

P. P. WELLS, M.D., Brooklyn, N. Y., Chairman.
HENRY D. PAYNE, M.D., Albany, N. Y., General Secretary.
I. T. TALBOT, M.D., Boston, Mass., Provisional Secretary.
C. H. SKIFF, M.D., New Haven, Conn., Treasurer.

SEVENTEENTH SESSION.

(*Held at Philadelphia, Pa., June* 2, 1860.)

E. C. WITHERELL, M.D., Cincinnati, Ohio, Chairman.
JACOB BEAKLEY, M.D., New York, N. Y., General Secretary.
HENRY M. SMITH, M.D., New York, N. Y., Provisional Secretary.
C. D. SKIFF, M D., Brooklyn, N. Y., Treasurer.

EIGHTEENTH SESSION.*

(*Held at Cincinnati, Ohio, June* 7, 1865.)

S. S. GUY, M.D., Brooklyn, N. Y., President.
I. T. TALBOT, M.D., Boston, Mass., Vice-President.†
G. D. BEEBE, M.D., Chicago, Ill., General Secretary.
WILLIAM TOD HELMUTH, M.D., St. Louis, Mo., Provisional Secretary.
D. S. SMITH, M.D., Chicago, Ill., Treasurer.

NINETEENTH SESSION.

(*Held at Pittsburg, Pa, June* 6, 1866.)

J. S. DOUGLAS, M.D., Milwaukee, Wis., President.
S. R. BECKWITH, M.D., Cleveland, Ohio, Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
HENRY B. CLARKE, M.D., New Bedford, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTIETH SESSION.

(*Held at New York City, N. Y., June* 4, 1867.)

WILLIAM TOD HELMUTH, M.D., St. Louis, Mo., President.
P. P. WELLS, M.D., Brooklyn, N. Y., Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
HORACE M. PAINE, M.D., Albany, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FIRST SESSION.

(*Held at St. Louis, Mo., June* 2, 1868.)

HENRY D. PAINE, M.D., New York, N. Y, President.
T. G. COMSTOCK, M.D., St. Louis, Mo., Vice-President.
I. T. TALBOT, M.D., Boston, Mass, General Secretary.
H. L. CHASE, M.D., Cambridge, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

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* No sessions were held during the Rebellion.

† By a change of the By-Laws, the Chairman became President, and the office of Vice-President was instituted at this session.

TWENTY-SECOND SESSION.

(*Held at Boston, Mass., June* 8, 1869.)

REUBEN LUDLAM, M.D., Chicago, Ill., President.
D. H. BECKWITH, M.D., Cleveland, Ohio, Vice-President.
I. T. TALBOT, M.D., Boston, Mass., General Secretary.
TIMOTHY F. ALLEN, M.D., New York, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-THIRD SESSION.

(*Held at Chicago, Ill., June* 7, 1870.)

DAVID THAYER, M.D., Boston, Mass., President.
J. J. YOULIN, M.D., Jersey City, N. J., Vice-President.
REUBEN LUDLAM, M.D., Chicago, Ill., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FOURTH SESSION.

(*Held at Philadelphia, Pa., June* 6, 1871.)

D. H. BECKWITH, M.D., Cleveland, Ohio, President.
J. D. TEMPLE, M.D., St. Louis, Mo., Vice-President.
REUBEN LUDLAM, M.D., Chicago, Ill., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-FIFTH SESSION.

(*Held at Washington, D. C., June* 21, 1872.)

I. T. TALBOT, M.D., Boston, Mass., President.
J. J. YOULIN, M.D., Jersey City, N. J., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-SIXTH SESSION.

(*Held at Cleveland, Ohio, June* 3, 1873.)

ALVIN E. SMALL, M.D., Chicago, Ill., President.
J. C. BURGHER, M.D., Pittsburg, Pa., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-SEVENTH SESSION.

(*Held at Niagara Falls, N. Y., June* 9, 1874.)

JOHN J. YOULIN, M.D., Jersey City, N. J., President.
N. SCHNEIDER, M.D., Cleveland, Ohio, Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-EIGHTH SESSION.

(*Held at Put-in-Bay, Ohio, June* 16, 1875.)

WILLIAM H. HOLCOMBE, M.D., New Orleans, La., President.
L. E. OBER, M.D., La Crosse, Wis., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

TWENTY-NINTH SESSION.

(*Held at Philadelphia, Pa., June* 26 *to July* 1, 1876, *in conjunction with the World's Homœopathic Convention; the officers of the Institute being constituted the officers of the Convention.*)

CARROLL DUNHAM, M.D., Irvington-on-Hudson, N. Y., President.
E. C. FRANKLIN, M.D., St. Louis, Mo., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
T. C. DUNCAN, M.D., Chicago, Ill., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTIETH SESSION.

(*Held at Lake Chautauqua, N. Y., June* 26, 1877.)

E. C. FRANKLIN, M.D., St. Louis, Mo., President.
T. P. WILSON, M.D., Cincinnati, Ohio, Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-FIRST SESSION.

(*Held at Put-in-Bay, Ohio, June* 18, 1878.)

JOHN C. BURGHER, M.D, Pittsburg, Pa., President.
J. C. SANDERS, M.D., Cleveland, Ohio, Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SECOND SESSION.

(*Held at Lake George, N. Y., June* 17, 1879.)

CONRAD WESSELHOEFT, M.D., Boston, Mass., President.
N. FRANCIS COOKE, M.D., Chicago, Ill., Vice-President.
ROBERT J. McCLATCHEY, M.D., Philadelphia, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-THIRD SESSION.

(*Held at Milwaukee, Wis., June* 18, 1880.)

T. P. WILSON, M.D., Ann Arbor, Mich., President.
GEORGE A. HALL, M.D., Chicago, Ill., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
J. H. McCLELLAND, M.D., Pittsburg, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-FOURTH SESSION.

(*Held at Brighton Beach, N. Y., June* 14, 1881.)

J. W. DOWLING, M.D., New York, N. Y., President.
W. L. BREYFOGLE, M.D., Louisville, Ky., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
J. H. McCLELLAND, M.D., Pittsburg, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N.Y., Treasurer.

THIRTY-FIFTH SESSION.

(*Held at Indianapolis, Ind., June* 13, 1882).

W. L. BREYFOGLE, M.D., Louisville, Ky., President.
BUSHROD W. JAMES, M.D., Philadelphia, Pa., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
JOSEPH C. GUERNSEY, M.D., Philadelphia, Pa., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SIXTH SESSION.

(*Held at Niagara Falls, N. Y., June* 19, 1883).

BUSHROD W. JAMES, M.D., Philadelphia, Pa., President.
O. S. RUNNELS, M.D., Indianapolis, Ind., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-SEVENTH SESSION.

(*Held at Deer Park, Md., June* 17, 1884).

JOHN C. SANDERS, M.D., Cleveland, Ohio, President.
T. F. ALLEN, M.D., New York, N. Y., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-EIGHTH SESSION.

(*Held at St. Louis, Mo., June* 2, 1885).

TIMOTHY F. ALLEN, M.D., New York, N. Y., President.
A. C. COWPERTHWAITE, M.D., Iowa City, Iowa, Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

THIRTY-NINTH SESSION.

(*Held at Saratoga Springs, N. Y., June* 28, 1886.)

O. S. RUNNELS, M.D., Indianapolis, Ind., President.
A. I. SAWYER, M.D, Monroe, Mich., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D. Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTIETH SESSION.

(*Held at Saratoga Springs, N. Y., June 27, 1887.*)

F. H. ORME, M.D., Atlanta, Ga., President.
A. R. WRIGHT, M.D., Buffalo, N. Y., Vice-President.
J. C. BURGHER, M.D., Pittsburg, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-FIRST SESSION.

(*Held at Niagara Falls, N. Y., June 29, 1888.*)

A. C. COWPERTHWAITE, M.D., Iowa City, Iowa, President.
N. SCHNEIDER, M.D., Cleveland, Ohio, Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-SECOND SESSION.

(*Held at Minnetonka Beach, Minn., June 24, 1889.*)

SELDEN H. TALCOTT, M.D., Middletown, N. Y., President.
THEO. Y. KINNE, M.D., Paterson, N. J., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Ward's Island, N. Y., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

FORTY-THIRD SESSION.

(*Held at Waukesha, Wis., June 16, 1890.*)

ALFRED I. SAWYER, M.D., Monroe, Mich., President.
J. D. BUCK, M.D., Cincinnati, Ohio, Acting President.
CHESTER G. HIGBEE, M.D., St. Paul, Minn., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D. Macon, Ga., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.

[NOTE.—The appointment of an Acting President was made necessary by the illness of the President and the absence of the Vice-President.]

FORTY-FOURTH SESSION.

(*Held at Atlantic City, N. J., in conjunction with the Fourth International Homœopathic Congress, June 16, 1891.*)

THEO. Y. KINNE, M.D., Paterson, N. J., President.
JAMES H. McCLELLAND, M.D., Pittsburg, Pa., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Macon, Ga., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-FIFTH SESSION.

(*Held at Washington, D. C., June 13, 1892.*)

THEO. Y. KINNE, M.D., Paterson, N. J., President.
JAMES H. McCLELLAND, M.D., Pittsburg, Pa., Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-SIXTH SESSION.

(*Held at Chicago, Ill.*, 1893).

JAMES H. McCLELLAND, M.D., Pittsburg, Pa., President.
C. E. FISHER, M.D., Chicago, Ill., First Vice-President.
MILLIE J. CHAPMAN, M.D., Pittsburg, Pa., Second Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FORTY-SEVENTH SESSION.

(*Held at Denver, Colo.*, 1894.)

JAMES H. McCLELLAND, M.D., Pittsburg, Pa., President.
C. E. FISHER, M.D., Chicago, Ill., First Vice-President.
MILLIE J. CHAPMAN, M.D., Pittsburg, Pa., Second Vice-President.
PEMBERTON DUDLEY, M.D., Philadelphia, Pa., General Secretary.
T. M. STRONG, M.D., Boston, Mass., Provisional Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FIFTY-FIRST SESSION.

(*Held at Newport, R. I.*, 1895.)

CHARLES E. FISHER, M.D., Chicago, Ill., President.
J. B. GREGG CUSTIS, M.D., Washington, D. C., First Vice-President.
EUGENE F. STORKE, M.D., Denver, Colo., Second Vice-President.
EUGENE H. PORTER, M.D., 181 West 73d St., New York, N. Y., General Secretary.
FRANK KRAFT, M.D., Cleveland, Ohio, Recording Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
THOS. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

FIFTY-SECOND SESSION.

(*Held at Detroit, Mich.*, 1896.)

PEMBERTON DUDLEY, M.D., Philadelphia, Pa., President.
D. A. MACLACHLAN, M.D., Detroit, Mich., First Vice-President.
J. C. BUDLONG, M.D., Providence, R. I., Second Vice-President.
EUGENE H. PORTER, M.D., 181 West 73d St., New York, N. Y., General Secretary.
FRANK KRAFT, M.D., Cleveland, Ohio, Recording Secretary.
E. M. KELLOGG, M.D., New York, N. Y., Treasurer.
T. FRANKLIN SMITH, M.D., New York, N. Y., Assistant Treasurer.

CONSTITUTION AND BY-LAWS.

CONSTITUTION.

ADOPTED JUNE 10, 1874.

Article I.—Name and Object.

THIS Association shall be styled the AMERICAN INSTITUTE OF HOMŒOPATHY, and its object the improvement of Homœopathic therapeutics and all other departments of medical science.

Article II.—Members.

The Institute shall be composed of those physicians who are already members, and of such others as may be hereafter chosen in conformity with the By-Laws.

Article III.—Officers.

The officers of the Institute shall be a President, two Vice-Presidents, who shall be designated "First" and "Second," according to the number of votes received by each, a General Secretary, a Recording Secretary, a Treasurer and an Assistant Treasurer, with such other officers as shall be designated by the By-Laws, to be chosen at such time, in such manner, for such a period, and with such duties as the By-Laws shall ordain.

Article IV.—Seal.

The Institute shall have and use one common seal, with a suitable device and inscription.

Article V.—Amendments.

This Constitution may be altered or amended by a vote of two-thirds of all the members present at the regular annual meeting, provided that notice of such alteration or amendment shall have been given in writing at a previous annual meeting of the Institute.

BY-LAWS.

ADOPTED JUNE 2, 1893.

Article I.—Meetings.

This Institute shall hold at least one session in each year, at such time and place as may be determined upon from time to time.

Article II.—Officers.

SECTION 1. The officers shall be elected by ballot at each annual session of the Institute, and shall enter upon their respective duties the first day of January following.

SEC. 2. The officers of the Institute, viz., the President, Vice-Presidents, General Secretary, Recording Secretary, Treasurer and Assistant Treasurer shall constitute an Executive Committee, which shall arrange the business of the session, attend to matters of business not otherwise specially provided for, and perform such other duties as may by vote of the Institute devolve upon them.

SEC. 3. The General Secretary shall be paid an annual salary of one thousand dollars.

Article III.—Duties of Officers.

SECTION 1. The President shall preside at the meetings of the Institute and perform the duties usually pertaining to his office, together with such others as may by vote of the Institute devolve upon him. He shall sign all certificates of membership. He shall deliver an address at the opening of each session, and make such suggestions as he may deem necessary for the Institute to take action on during the session; and he may also consider any subject relating to medical science.

SEC. 2. The Vice-Presidents in their order shall perform the duties of the President in his absence or disability.

SEC. 3. The General Secretary shall keep a record of the proceedings of the meetings, conduct the correspondence of the Institute, issue notices of meetings, notify members of their election, sign certificates of membership, and perform such other duties as the Institute may direct. It shall further be the duty of the Secretary to send to each Homœopathic journal published in the country, within two months after the adjournment of an annual meeting, a list of the officers for the ensuing year and the members of its sections.

SEC. 4. The Recording Secretary shall assist the General Secretary, and in his absence perform his duties.

SEC. 5. It shall be the special duty of the Recording Secretary to make, or provide, stenographic reports of all scientific discussions of the Institute and of its sections, and of all debates upon the reports and papers presented by the Standing Committees. He shall send copies of these scientific discussions for revision and correction to their authors respectively, who shall be required to return them within one week after their reception, when they shall be furnished to the General Secretary for publication in the TRANSACTIONS. The compensation for such services shall be two hundred dollars per annum, and the necessary expenses of his attendance at the session shall be paid by the Institute.

SEC. 6. In the absence or disability of the Recording Secretary, his duties shall devolve upon the General Secretary.

SEC. 7. The Treasurer shall receive all money belonging to the Institute, and make all disbursements under the recommendation of the Executive Committee. He shall furnish at each annual meeting a written report of the condition of the finances.

SEC. 8. The Assistant Treasurer shall render aid to the Treasurer, and, in his absence or disability, perform his duties.

SEC. 9. There shall be elected annually a Registrar, who shall attend to the registration of members present at the annual sessions, the preparation of a daily roster, and the distribution of the appropriate badges to members and visitors. He shall make a full report to the General Secretary at the close of the annual meeting.

Article IV.—Censors.

There shall be a Board of Censors, consisting of five members (three of whom shall constitute a quorum), who shall receive and examine the credentials of candidates for membership, and report to the Institute for election such as may be found properly qualified. One member of said Board shall be elected by ballot at each annual session, to serve for five years from the first day of January next succeeding said election.

Article V.—Membership.

SECTION 1. Candidates for membership shall present to the Board of Censors a certificate of three members of the Institute that the applicant has pursued a regular course of medical studies according to the requirements of the existing institutions of this country, and sustains a good moral character and professional standing. Such certificate shall state when and where the applicant obtained a diploma. If found qualified, the candidate may be elected a member. No person shall be considered a member, however, before paying an admision fee of two dollars, and the annual dues, which shall entitle him to a certificate of membership.

SEC. 2. No physician, graduated subsequent to the year 1891 shall be eligible to membership, unless said graduation has followed three, full, annual courses of didactic and clinical lectures of not less than six months each.

SEC. 3. Members shall pay annually the sum of five dollars towards defraying the expenses of the Institute. The TRANSACTIONS of the Institute shall be sent to those members only who have paid their dues.

SEC. 4. Members neglecting the payment of dues for three years, after proper notification from the Treasurer, shall have their names dropped from the roll of membership. Any person thus dropped shall have the privilege of reinstatement by paying all arrearages, on recommendation of the Board of Censors.

SEC. 5. The Executive Committee shall be authorized to remit, *sub silentio*, the dues of those who, for ten years, have been in good membership and have paid their dues during that time, provided that such members are unable to continue payment of their annual dues.

SEC. 6. All members of the Institute who have maintained twenty-five consecutive years of membership shall be considered *Senior Members*, and be exempt from the payment of annual dues; and the names of such members shall be printed first in the list of members, in capital letters.

SEC. 7. Any foreign physician may be elected a Corresponding Member of the Institute at any annual meeting, on recommendation of the Board of Censors, and shall have all the privileges of members, except voting and eligibility to office.

SEC. 8. The Institute may, at any annual meeting, elect as Honorary Members, not to exceed five in one year, any foreign physicians who may be judged worthy from their superior attainments in medicine; provided, that the names of persons proposed for Honorary Membership shall have been presented at a previous an-

nual meeting. Such Honorary Members shall have all the privileges of members except voting and eligibility to office.

SEC. 9. The Institute may, at any annual meeting, elect as Honorary Associate Members, not to exceed three in any one year, any persons not members of the medical profession, who have in any way been of special service to science and humanity, and particularly those who have been special patrons of Homœopathy; and said Honorary Associate Members shall have all the privileges of Honorary Members.

SEC. 10. Any physician properly accredited as a Delegate shall be admitted during the session of the Institute to all the privileges of members, except voting and eligibility to office, on the following basis:

First. From every association composed of more than fifty members from different States, two delegates, with an additional delegate for every twenty members.

Second. From every state society, two delegates, with an additional delegate for every twenty members.

Third. From every county or local society, one delegate.

Fourth. From every hospital, asylum for the insane, or dispensary actually established, one delegate.

Fifth. From every medical journal published, one delegate.

Sixth. From every college associated with the Institute, two delegates; said delegates to constitute the Intercollegiate Committee of the Institute.

Article VI.—Sections.

SECTION 1. The following SECTIONS shall be appointed as hereinafter provided for:

a. Materia Medica and General Therapeutics.
b. Clinical Medicine and Pathology.
c. Obstetrics.
d. Gynæcology.
e. Pædology.
f. Sanitary Science.
g. Surgery.
h. Neurology.
i. Ophthalmology, Otology, and Laryngology.

SEC. 2. Each of these sections shall consist of not less than five members.

SEC. 3. The chairman of each section in his address, shall include a *résumé* of progress in discovery in the special field to which said section pertains.

SEC. 4. The President shall appoint the chairmen of all sections for the ensuing year; and shall announce all such appointments as early in the progress of the session as practicable. But no member of a section who has failed to perform active service thereon, shall be appointed to its Chairmanship for the ensuing year.

SEC. 5. The chairman of each section, as soon as possible after appointment, shall select his associates and complete the organization of his section by the appointment of a secretary. He shall within one month after his appointment send to the General Secretary a list of the officers and members of his section. In case

of failure to comply with the provisions of this section, the President is authorized to appoint another Chairman.

SEC. 6. No member shall serve on more than one section in any one year. If any member's name occurs in more than one section he shall be notified by the Secretary to elect the one to which he wishes to be assigned.

SEC. 7. Vacancies occurring in any section may be filled by its Chairman, who shall give immediate notice thereof to the General Secretary.

Article VII.—Committees.

SECTION 1. The following STANDING COMMITTEES shall be appointed, as hereinafter provided for:

a. Organization, Registration, and Statistics.
b. Legislation.
c. Medical Literature.
d. Foreign Correspondence.
e. Intercollegiate.
f. Medical Education.
g. Drug Provings.

SEC. 2. "The Committee on Legislation shall consist of five members and the Committe on Drug Provings of seven members. The term of service of one member in each of these Committees shall expire each year. The Intercollegiate Committee shall consist of two delegates to be appointed by each college represented in the Institute, and shall appoint its own chairman. The remaining Standing Committees shall consist of at least five members each, who shall serve for one year."

SEC. 3. There shall also be appointed each year, Committees on Local Arrangements, on Transportation, on Press, on Resolutions and Business and on the Memorial Service, of not less than three members each. The duties of said Committees shall be such as are indicated by their respective titles. All resolutions presented to the Institute shall be referred without debate to the Committee on Resolutions.

SEC. 4. The President, so far as these By-Laws require, shall appoint each of the Committees provided for in this article, immediately upon the presentation and disposition of its report.

SEC. 5. All Committees or members appointed to perform any special work under the authority of this Institute shall serve without compensation, unless otherwise specifically ordered.

Article VIII.—Committee on Publication.

SECTION 1. The Committee on Publication shall consist of three members of the Institute, to be appointed annually by the Executive Committee, whose duty shall be to pass upon all papers or reports presented to the Institute, and the decision of such Committee as to the publication of papers or reports shall be final.

SEC. 2. No report or paper referred to the Committee on Publication shall be rejected except with the formal concurrence of a majority of said Committee. All papers so rejeeted shall be returned to their authors by the General Secretary.

SEC. 3. The TRANSACTIONS of the Institute shall be issued by the General Sec-

retary, under the direction of the Committee on Publication, within five months after the close of the session, and copies shall be delivered to those entitled to them, without individual expense.

SEC. 4. There shall be published in each annual volume of the TRANSACTIONS: 1. A list of senior members arranged according to their years of membership. 2. An alphabetical list of members, including the names of senior members in CAPITALS. 3. A list of members classified by states. The complete list of Members of the Institute from its Organization, and its Code of Ethics, shall be published every five years.

SEC. 5. The General Secretary shall furnish editorial copies of the TRANSACTIONS to such homœopathic journals as are sent to the Institute in exchange, and to other selected journals.

SEC. 6. The Secretary shall send copies of the Statistical Reports to all societies, hospitals and dispensaries that make reports to the Committee on Organization, Registration and Statistics.

Article IX.—Rules of Order.

SECTION 1. The names and residences, of all applicants for membership shall be announced in alphabetical order by the Board of Censors in open session, at least six hours before their election is voted upon.

SEC. 2. The Report of the Necrologist shall be presented in connection with the Report of the Committee on Memorial Service.

SEC. 3. The time allotted to any Committee for the presentation of its report shall not exceed fifteen minutes. No report shall be received from any Committee except in writing.

SEC. 4. No report or paper shall be received by the Institute in an incomplete or unfinished condition, and no paper shall be published in the TRANSACTIONS which has been published previous to its presentation to the Institute, or which is not handed to the General Secretary before the close of the session.

SEC. 5. Meetings of any section may be held at the call of its Chairman, provided such meetings be not held during the sittings of the Institute, nor during the meetings of the other sections, except as provided in the adopted Order of Business.

SEC. 6. In all discussions no speaker shall be allowed more than five minutes, nor to speak more than once upon the same subject, except by a vote of consent taken in the usual manner.

SEC. 7. The election of officers for the ensuing year, and the determination of the next place for the meeting of the Institute, shall take place on the fourth day of the session, at 10 A.M., Sunday excepted. The nominations shall be made on the third day of the session, at 10 A.M., in the following way: Nomination papers shall be furnished by the General Secretary on the first day of the session, and any person receiving the indorsement of ten members shall be considered a nominee, provided no indorser's name appear on more than one paper for that office. If no nomination papers are handed in, it shall be the duty of the Executive Committee to see that at least one paper shall be prepared for each of the elective offices. No nomination shall be considered after the President has declared the nominations closed. These papers shall immediately be placed in charge of a

special committee of three, to be appointed by the President, to which shall be added the Treasurer and Register *ex officio*. The duties of this committee shall be, first, to prepare an official ballot, on which the names of all nominees shall be placed in alphabetical order for the office to which they are nominated. Second. To take general charge of the election, which shall occur on the fourth day of the Institute session, excepting Sunday, at 10 A M., the polls to be open two hours, and in such manner as not to interfere with the general work of the session. Third. In conjunction with the General Secretary and Treasurer, to prepare a roster of members in good standing, which shall be used as a check-list and ultimate judge as to voting and qualifications of members. Upon declaration of the result, should no election be had for any office, the Institute shall, in open session, elect from the two candidates receiving the highest number of votes which person it prefers. Members shall vote by the method known as the Australian system, *i.e*, putting a cross opposite the name of the person voted for. Should more marks be placed than the office calls for, such ballot shall be invalidated, so far as that particular office is concerned. The inspectors of election shall report when and as the Institute may direct.

SEC. 8. At the conclusion of the work of each section its Chairman shall present in writing to the Institute, in general session, a report of its meetings, and shall at the same time hand to the General Secretary its reports, addresses and papers, which shall remain in his hands until the TRANSACTIONS are printed.

Article X.

All complaints relating to violations of the Code of Ethics for the Institute shall be referred to the Senate of Seniors for consideration and adjustment, and its decision shall be final, without further action of the Institute; except in such cases as require disciplinary action, when the Senate shall report to the Institute with recommendations.

Questions in dispute, having a bearing upon the general good of Homœopathy, which may be brought before the Institute for review and judgment, shall be referred to the Senate of Seniors for adjustment. In order to appeal from its decision a two-thirds vote of members present and voting shall be necessary, said vote to be had without debate; all appeals thus ordered shall be heard at a special hour set for the purpose, and shall be considered in Executive Session.

Article XI.—Amendments.

These By-Laws may be altered or amended by a vote of two-thirds of the members present at the annual meeting.

STANDING RESOLUTIONS.

1. *Resolved*, That the American Institute of Homœopathy does not necessarily indorse the doctrines contained in the reports of committees by accepting and publishing such reports with the *Proceedings.—Adopted June* 4, 1867.

2. *Resolved*, That hereafter all provings by a single prover, presented through the Section in Materia Medica, Pharmacy and Provings, be referred back to the section, to be retained by it until a sufficient number of provings are obtained to warrant the section in collating the same and presenting them to the Institute for publication; and such collation and presentation shall be a part of the duty of that section.—*Adopted June* 9, 1874.

3. *Resolved*, That this Institute condemns the action of any college which graduates an unsuccessful candidate from another college, unless he attends at least one full course of lectures at the college where he applies for a degree.—*Adopted June* 30, 1886.

4. *Resolved*, That in making up the list of existing journals illustrating Homœopathy by the Committee on Organization, Registration and Statistics, and the Committee on Medical Literature, all such shall be embraced as avow the principle of similars as the dominating principle for the selection of drugs in the cure of the sick, and which also support the organizations of Homœopathy as a distinctive body in the medical profession; that no journal thus listed shall be stricken off without formal notice through the General Secretary to the Institute of the reason for any proposed omission from the list, and then not without due notice and opportunity for defence on the part of the journal under consideration, final action on the case being deferred until the succeeding annual meeting. But the name of any journal may be dropped from the list before September, 1889, after failure to signify its assent to the preceding conditions of its listing, and, if assenting, after subsequent failure to make report to the Institute for three consecutive years.—*Adopted June* 27, 1889.

5. *Resolved*, That the American Institute of Homœopathy cordially endorses and approves the action of the Intercollegiate Committee, by which four years has been made the required term of medical study, and the studies of the first year have been definitely arranged to include the preliminary studies requisite to more advanced medical instruction.

6. *Resolved*, That it is the duty of every member of the Institute to assist and sustain the medical colleges in their efforts. —*Adopted June* 20, 1890.

7. *Resolved*, That the Committee on Local Arrangements be instructed to respect the working hours of the Institute session, and to make no provision for entertainments to the members except during the intermissions of the session.—*Adopted June* 20, 1890.

8. *Resolved*, That the American Institute of Homœopathy, systematically, and from year to year, investigate the comparative mortality per cent., as shown in the Health Offices of all the larger cities of the United States, and give the results of said investigation the widest possible publicity.—*Adopted June* 17, 1892.

9. *Resolved*, That the Institute shall begin its annual session at or about the middle of the week, and continue as long as the work of the sections requires, according to the judgment of the Executive Committee.—*Adopted June* 1, 1893.

10. *Resolved*, That beginning with the session of 1895–96 all colleges recognized by the Intercollegiate Committee of the American Institute of Homœopathy shall require attendance on four courses of lectures of not less than six months each, in separate years.—*Adopted June* 20, 1894.

11. *Resolved*, That while the Intercollegiate Committee of the American Institute of Homœopathy would regard with favor any movement looking to the establishment of chairs of Homœopathic Therapeutics or Materia Medica in any college or university in which such chairs do not now exist, it would most unqualifiedly condemn any movement to transfer any existing Homœopathic institution to any old-school college in a manner which involves the surrender of its distinctive name, and under conditions which do not secure the recognition of distinctive chairs of Homœopathy.—*Adopted June* 20, 1894.

Complete Report of the Board of Censors.

PHYSICIANS ELECTED TO MEMBERSHIP.

ACKERMAN, JAMES FRANKLIN, ... 905 Grand Ave., Asbury Park, N. J.
New York Homœopathic College and Hospital, 1890.

ADAMS, CHARLES, ... Central Music Hall, Chicago, Ill.
Hahnemann Medical College, Chicago. 1872.

ANDERSON, JEREMIAH NELSON, ... 5 College St., Toronto, Ont.
New York Homœopathic Medical College, 1865.

AYRES, JAMES NELSON, ... 534 S. Burdick St., Kalamazoo, Mich.
University of Michigan, 1889.

BABINGTON, JOHN, ... Corunna, Mich.
Hahnemann Medical College, Chicago, 1881.

BALDINGER, ARTHUR F., ... 670 Euclid Ave., Cleveland, O.
Cleveland Homœopathic College, 1889.

BARTHOLOMEW, DANIEL D., ... Holly, Mich.
Univ. Medicine and Surgery and Homœopathic Hospital College, Mich., 1870 and 1880.

BARTON, WILLIAM RICE, ... 216 Washington St., Ypsilanti, Mich.
Cleveland Homœopathic College and Hospital, 1881.

BEAMAN, CHARLES P., ... Ithaca, N. Y.
New York Homœopathic Medical College, 1882.

BLANKE, THEO. F., ... Great Bend, Kansas.
Homœopathic Medical Colege of Missouri, 1889.

BOWMAN, ISAAC N., ... Upper Sandusky, O.
Starling Medical College, 1882.

BREWSTER, FREDERICK D., ... 3130 Washington Ave., Scranton, Pa.
New York Homœopathic Medical College, 1879.

BROWN, PLUMB, JR., ... 503 State St., Springfield, Mass.
Hahnemann Medical College and Hospital of Chicago, 1892.

CARLETON, BUKK G., ... 75 W. 50th St., New York, N. Y.
New York Homœopathic Medical College, 1876.

CARON, GEORGE G., ... 30 Henry St., Detroit, Mich.
University of Michigan, 1886.

CHURCH, ELOISE IRENE, ... 41 W. 94th St., New York, N. Y.
Eclectic Medical College of New York, 1886.

CLAPP, KATHERINE B., ... 6222 Woodlawn Ave., Chicago, Ill.
Hahnemann Medical College and Hospital, 1894.

CLARK, GEORGE EVERRETT, ... 203 S. Main St., Stillwater, Minn.
Hahnemann Medical College of Chicago, 1880.

COLLINS, NEWTON, M., ... 43 East Ave., Rochester, N. Y.
Hahnemann Medical College of Philadelphia, 1883.

COLE, SARAH A., ... Port Austin, Mich.
University of Iowa, 1889.

CRISAND, CARL, ... 2 Charlotte St., Worcester, Mass.
New York Homœopathic Medical College, 1884.

CRUM, J. D., ... 314 N. Ball St., Owosso, Mich.
E. M. Institute, 1881.

DIXEY, MABEL G., ... 401 Chrogan St., Fremont, O.
University of Michigan, 1893.

ELLIOTT, FRANK, ... 1008 Main St., Kansas City, Mo.
Cleveland Hospital and Medical College, 1881.

FERWALD, HERBERT E., ... Cahoosct, Mass.
Boston Univ. School of Medicine, 1895.

FOOTE, DELLIZON A., ... 200 Parton Block, Omaha, Neb.
Chicago Homœopathic Medical Society, 1887.

FOWLER, WALTER NEWTON, ... Hook St., Ann Arbor, Mich.
University of Michigan, 1889.

FROST, WILLIAM A., ... Tecumseh, Mich.
University of Michigan, 1880.

GARWOOD, VASHTI D., ... 40 Twelfth St., Ann Arbor, Mich.
Boston University School of Medicine, 1883.

GEORGE, EDGAR J., ... 31 Washington St., Chicago, Ill.
Chicago Homœopathic Medical College, 1891.

GRAMM, THEO. J., ... 846 N. Broad St., Philadelphia, Pa.
Hahnemann Medical College of Philadelphia, 1881.

HALLMAN, VICTOR H., ... 606½ Central Ave., Hot Springs, Ark.
Chicago Homœopathic Medical College, 1885.

HAUXHURST, HOWARD H., ... 1333 L St., N. W., Washington, D. C.
New York Homœopathic Medical College, 1891.

HENDERSHOTT, LIZZIE A., ... Irving, Mich.
Homœopathic Department Univ. of Michigan, 1888.

HINSDALE, WILBERT B., ... Ann Arbor, Mich.
Cleveland Homœopathic Hospital and College, 1887.

HOAG, FRANK L., ... 373 S. College Ave., Grand Rapids, Mich.
Chicago Homœopathic College, 1884.

HOAG, JAMES H., ... Oxford, Ind.
Hahnemann Medical College of Chicago, 1883.

HOLMES, FRANCES W., ... Bellevue Ave., Upper Montclair, N. J.
New York Medical College and Hospital for Women, 1892.

HOPKINS, WILLIAM T., ... 65 Broad St., Lynn, Mass.
Boston University School of Medicine, 1890.

HOYT, MARY O., ... 26 North Fourth Street, Keokuk, Ia.
Hahnemann Medical College and Hospital of Chicago, 1894.

HUNT, JOHN S., ... Athens, Ohio.
Pulte Medical College, 1891.

HUSS, JOHN R., ... Eureka, Kan.
Pulte Medical College, 1879.

HYDE, RUFUS J., ... Eaton Rapids, Mich.
Homœopathic Department of University of Michigan, 1884.

JENKINS, CHARLIE G., ... Mason, Mich.
University of Michigan, 1894.

JOHNSTON, CHARLES L., ... 467 Vanderbilt Ave., Brooklyn, N. Y.
University of Michigan, 1884.

KAHLKE, CHARLES E., ... 3034 Michigan Ave., Chicago, Ill.
Hahnemann Medical College of Chicago, 1894.

KERCH, HARRY E., ... Dundee, Ill.
Chicago Homœopathic College, 1892.

KOCH, MARGARET, ... Ashmore Flats, Minneapolis, Minn.
Medical Department of University of Minneapolis, 1895.

KLEIN, EMMA, ... 156 St. Aubin Ave., Detroit, Mich.
University of Michigan, 1891.

KREIDER, MARTIN K., ... Goshen, Ind.
Chicago Homœopathic College, 1878.

LANCE, JOHN D., ... Broadway, Providence, R. I.
Homœopathic Medical College of Cleveland, 1877.

LARDS, CHARLES H., ... 33 Butler St., Adrian, Mich.
Hahnemann Medical College, Chicago, 1878.

LEAVITT, HENRY H., ... 909 Fourth St., S.E., Minneapolis, Minn.
Chicago Homœopathic Medical College, 1886.

LENFESTEY, JOHN A., ... 27 North Gratiot St., Mt. Clemens, Mich.
Homœopathic Medical College of Michigan University, 1893.

LUNGER, JUSTUS S., ... East Water St., Prospect, O.
Cleveland Medical College, 1891.

MANN, JESSE E., ... Paxton Blk., Sixteenth and Farnam Sts., Omaha, Neb.
Hahnemann Medical College and Hospital of Chicago, 1884,

MCCAUSLAND, H. G., ... 25 High St., West Detroit, Mich.
Trinity College, Toronto, Canada, 1885.

MCCAULEY, JOHN C., ... 185 Connecticut St., Rochester, Pa.
Cleveland Homœopathic Hospital and College. 1890.

MCCORMICK, A. L., ... 3110 Woodburn Ave., Cincinnati, O.
Pulte Medical College, 1883.

MCINTYER, EDWIN R., ... 386 North Clark St., Chicago, Ill.
Hahnemann Medical College of Chicago, 1883.

MCLAREN, WILLIAM R., ... 25 Washington Ave., Detroit, Mich.
Hahnemann Medical College of Chicago, 1871.

MCMILLAN, FRANCES, ... Jackson Building, Nashville, Tenn.
Cleveland Medical College, 1894.

MILLS, WESLEY J., ... Howell, Mich.
Detroit Homœopathic College, 1874.

MITCHELL, CLIFFORD, ... 70 State St., Chicago, Ill.
Chicago Homœopathic Medical College, 1878.

MOON, SEYMOUR B., ... 1314 Eighth Ave., Beaver Falls, Pa.
Chicago Medical College, 1890.

MUELLER, GUSTAVE A., ... 400 Penn Ave., Pittsburg, Pa.
Hahnemann Medical College of Chicago, 1885.

O'BRIEN, EMILIE YOUNG, ... 1307 N St., N.W., Washington, D. C.
Boston University School of Medicine, 1893.

PARKHURST, ALICE S, ... 1410 Park Ave., Baltimore, Md.
Woman's Medical College of Baltimore, 1885; Hahnemann Medical College of Chicago, 1886.

PERRINE, J. K. M., ... 413 Penn Ave, Pittsburg, Pa.
Hahnemann Medical College, Philadelphia, 1893.

PHILLIPS, WILLIAM A., ... 89 Euclid Ave., Cleveland, O.
Homœopathic College of Missouri, 1866.

PROBERT, CLARENCE G., ... Huron, O.
Columbian University, Washington.

PULLEN, CHARLES D., ... Mt. Pleasant, Mich.
University of Michigan, 1892.

RAUTERBERG, ARTHUR C., ... 510 Fifth St., N.W., Washington, D. C.
Hahnemann College, Philadelphia, 1896.

REID, ROBERT G., ... Fonda Block, Louisville, Ky.
Pulte Medical College, 1889.

RICHARDS, R. MILTON, ... 25 Washington Ave., Detroit, Mich.
Cleveland Medical College, 1894.

SAGE, NORMAN L., ... 680 Twenty-fourth St., Detroit, Mich.
Pulte Medical College, 1888.

SANBORN, EMMA M. E., ... 4 Morton St., Andover, Mass.
Boston University School of Medicine, 1876.

SIGRIST, CHRISTOPHER W., ... New Philadelphia, O.
Cleveland Medical College, 1894.

SIGRIST, PHILIP H., ... East High St., New Philadelphia, O.
Cleveland Medical College, 1892.

SINCLAIR, DUNCAN J., ... 450 Dunnas St., Woodstock, Ont.
Ann Arbor College, 1888.

SINCLAIR, MALCOLM C., ... 124 Sheldon St., Grand Rapids, Mich.
Hahnemann Medical College, Chicago, 1873.

SLOCOMB, GEORGE A., ... 804 Main St., Worcester, Mass.
Boston University School of Medicine, 1880.

SMITH, CYRENIUS C., ... Bedford, Mich.
Hahnemann Medical College, Chicago, 1884.

SMITH, DEAN T., ... 302 N. Elm Ave., Jackson, Mich.
Chicago Homœopathic Medical College, 1889.

SMITH, DUDLEY, ... 526 Prospect St., Cleveland, O.
Cleveland University of Medicine and Surgery, 1894.

SMITH, MARK H., ... Peavland, Tex.
Iowa State University, 1895.

STEARNS, JOHN S., ... 1425 Rhode Island Ave., Washington, D. C.
Med. Department of Georgetown Univ., 1894; Hahnemann Med. College, 1896.

STERLING, CHARLES F., ... 396 Jefferson Ave., Detroit, Mich.
Pulte College, 1877.

STEVENS MARY T., ... 6 Adams Ave., W. Detroit, Mich.
Homœopathic College, University of Michigan, 1888.

STEVENS, R. H., ... 6 Adams Ave., W. Detroit, Mich.
Homœopathic College, University of Michigan, 1889.

STEWART, FRANCIS E., ... 106 Charlotte St., Detroit, Mich.
Jefferson Medical College, 1879.

STEWART, LINCOLN A., ... Brooksville, Me.
Boston University School of Medicine, 1895.

SWARTWORTH, F. A., ... 209 9th St., S. W., Washington, D. C.
Southern Homœopathic Medical College, 1894.

TRIEM, PETER E., ... Cor. Main and Madison Sts., Manchester, Ia.
Hahnemann Medical College, Chicago, 1881.

TURNER, ESTELLE, ... 616 W. 8th St., Cincinnati, O.
Pulte Medical College, 1896.

TUTHILL, FRANK S., ... Concord, Mich.
University of Michigan, 1891.

VEHSLAGE, SAMUEL H., ... 117 W. 43d St., New York, N. Y.
New York Homœopathic Medical College and Hospital, 1879.

WARD, WILLIAM R., ... Lyons Farms, N. J.
Hahnemann Medical College, Philadelphia, 1893.

WELLS, GEORGE S., ... Sistersville, W. Va.
Pulte Medical College, 1892.

WIGGERS, HENRY H., ... 529 Everett St., Cincinnati, O.
Pulte Medical College, 1892.

WILLARD, MARY A., ... 142 W. High St., Detroit, Mich.
New York Medical College and Hospital for Women, 1883.

WISE, JULIUS C., ... 14 W. 12th St., Kansas City, Mo.
Kansas City Homœopathic Medical College, 1896.

WOODRUFF, WILLIAM L., . . N. W. cor. 2d Ave. and Jefferson St., Phœnix, Ariz.
Hahnemann Medical College, Philadelphia, 1892.

Register of Members in Attendance.

REPORTED BY HENRY C. ALDRICH, M.D., REGISTRAR *pro tem.*

Seniors.

ALLEN, T. F.,	New York, N. Y.
BALDWIN, AARON,	Washington, D. C.
BECKWITH, D. H.,	Cleveland, Ohio.
BEEBE, E. W.,	Milwaukee, Wis.
BIGGAR, H. F.,	Cleveland, Ohio.
BOWEN, G. W.,	Ft. Wayne, Ind.
BUCK, J. D.,	Cincinnati, Ohio.
CHASE, H. L.,	Cambridgeport, Mass.
COMSTOCK, T. G.,	St. Louis, Mo.
DUDLEY, P.,	Philadelphia, Pa.
DUNCAN, T. C.,	Chicago, Ill.
FELLOWS, H. B.,	Chicago, Ill.
FOSTER, W. D.,	Kansas City, Mo.
GORDON, G. A.,	Chillicothe, Mo.
GROSVENOR, L. C.,	Chicago, Ill.
HEDGES, S. P.,	Chicago, Ill.
JAMES, B. W.,	Philadelphia, Pa.
JOHNSON, R. B.,	Ravenna, Ohio.
KELLOGG, E. M.,	New York, N. Y.
KINNE, T. Y.,	Paterson, N. J.
LUDLAM, R.,	Chicago, Ill.
MCCLELLAND, J. H.,	Pittsburg, Pa.
MIDDLETON, C. S.,	Philadelphia, Pa.
MITCHELL, J. S.,	Chicago, Ill.
OWENS, WILLIAM,	Cincinnati, Ohio.
PENNOYER, N. A.,	Kenosha, Wis.
RUSH, R. B.,	Salem, Ohio.
SMITH, H. M.,	New York, N. Y.
SPALDING, H. E.,	Boston, Mass.
TALBOT, I. T.,	Boston, Mass.
WESSELHOEFT, C.,	Boston, Mass.
WHITE, T. C.,	Rochester, N. Y.
WILSON, T. P.,	Detroit, Mich.
WOOD, O. S.,	Omaha, Neb.

Members.

ADAMS, G. S.,	Westboro, Mass.
AIKEN, J. G.,	New Orleans, La.
ALDRICH, H. C.,	Minneapolis, Minn.
ALLEN, G. D.,	Portland, Mich.

ALLEN, H. C.,	Chicago, Ill.
ALLEN, L.,	Worcester, Mass.
ALLEN, S. J.,	Charlotte, Mich.
ALLEN, T. F.	New York, N.Y.
ANDERSON, J. W.,	Denver, Colo.
ARNULPHY B. S.,	Chicago, Ill.
AVERY, A. B.,	Pontiac, Mich.
BABINGTON, J. B.,	Corunna, Mich.
BAILEY, B. F.,	Lincoln, Neb.
BAILEY, E. S.,	Chicago, Ill.
BAILEY, W. M.	Detroit, Mich.
BALDWIN, AARON,	Washington, D. C.
BALDWIN, H. D.,	Elyria, Ohio.
BALYEAT, E. A.,	Kalamazoo, Mich.
BARNARD, J. S.,	Baltimore, Md.
BARTON, W. R.,	Ypsilanti, Mich.
BECKWITH, D. H.,	Cleveland, Ohio.
BEEBE, E. W.,	Milwaukee, Wis.
BEEBE, H. E.,	Sidney, Ohio.
BESEMER, M.,	Ithaca, N. Y.
BIGGAR, H. F.,	Cleveland, Ohio.
BISSELL, E. J.,	Rochester, N. Y.
BITTENGER, F. D.,	Dayton, Ohio.
BLACKWOOD, A. L.,	Chicago, Ill.
BLAIR, W. W.,	Pittsburg, Pa.
BOWEN, G. W.,	Fort Wayne, Ind.
BOWMAN, I. N.,	Upper Sandusky, Ohio.
BREWSTER, F. D.,	Scranton, Pa.
BRIGGS, W. S.,	St. Paul, Minn.
BUCK, J. D.,	Cincinnati, Ohio.
BULL, W. H. H.,	Atlantic City, N. J.
CARON, GEORGE G.,	Detroit, Mich.
CARPENTER, W. B.,	Columbus, Ohio.
CHAMPLIN, H. W.,	Towanda, Pa.
CHAPMAN, E. E. K.,	Defiance, Ohio.
CHAPMAN, M. J.,	Pittsburg, Pa.
CHASE, H. L.,	Cambridgeport, Mass.
CLAPP, J. W.,	Brookline, Mass.
CLARKE, G. E.,	Stillwater, Minn.
CLARKE, W. E.,	Three Rivers, Mich.
CLOKEY, A. A.,	Louisville, Ky.
COBB, J. P.,	Chicago, Ill.
COLE, SARAH A.,	Fort Austin, Mich.
COMSTOCK, T. G.,	St. Louis, Mo.
COPELAND, R. S.,	Ann Arbor, Mich.
COSTAIN, T. E.,	Chicago, Ill.
COWPERTHWAITE, A. C.,	Chicago, Ill.
COX, F. J.,	Albany, N. Y.
CRUM, J. D.,	Owosso, Mich.
CRUMRINE, C. G.,	Detroit, Mich.
CUSHMAN, MARY F.,	Castina. Me.
CUSTIS, J. B. G.,	Washington, D. C.

DAILY, J. C.,	Ft. Smith, Ark.
DELAMATER, N. B.,	Chicago, Ill.
DELAP, S. C.,	Kansas City, Mo.
DESCHERE, M.,	New York, N. Y.
DEWEY, W. A.,	Ann Arbor, Mich.
DINSMORE, S. W. S.,	Sharpsburg, Pa.
DIXEY, MABEL G.,	Fremont, Ohio.
DUDLEY, P.,	Philadelphia, Pa.
DUNCAN, T. C.,	Chicago, Ill.
DUNN, W. A.,	Chicago, Ill.
EMERY, W. N.,	Waltham, Mass.
EVANS, A. J.,	Fredonia, N. Y.
EVANS, C. H.,	Chicago, Ill.
FAHNESTOCK, J. C.,	Piqua, Ohio.
FELLOWS, C. G.,	Chicago, Ill.
FELLOWS, H. B.,	Chicago, Ill.
FISHER, C. E.,	Chicago, Ill.
FOOTE, B. A.,	Omaha, Neb.
FOSTER, R. N.,	Chicago. Ill.
FOSTER. W. D.,	Kansas City, Mo.
FOWLER, W. M.,	Ann Arbor, Mich.
FRENCH, M. R.,	Chicago, Ill.
FROST, W. A.,	Tecumseh, Mich.
GANN, J. A.,	Wooster, Ohio.
GARWOOD, V. D.,	Ann Arbor, Mich.
GATCHELL, CH.,	Chicago, Ill.
GEISER, S. R.,	Cincinnati, Ohio.
GEOGHEGAN, W. A.,	Cincinnati, Ohio.
GOODMAN, C. H.,	St. Louis, Mo.
GORDON, G. A.,	Chillicothe, Mo.
GOULD, W. W.,	Rochelle, Ill.
GREEN, W. E.,	Little Rock, Ark.
GRIFFITH, A. R.,	Montreal, Can.
GROSVENOR, L. C.,	Chicago, Ill.
HALBERT, H. V.,	Chicago, Ill.
HALLMAN, B. H.,	Hot Springs, Ark.
HANCHETT, J. L.,	Sioux City, Ia.
HANCHETT, W. H.,	Omaha, Neb.
HARRIS, NELLIE R.,	Des Moines, Ia.
HASSLER, M. M.,	Allentown, Pa.
HAWKES, W. J.,	Chicago, Ill.
HEDGES, S. P.,	Chicago, Ill.
HENDERSHOTT, L. A.,	Irving, Mich.
HINSDALE, W. D.,	Ann Arbor, Mich.
HOAG, F. L.,	Grand Rapids, Mich.
HONBERGER, F. H.,	Chicago, Ill.
HOOD, C. T.,	Chicago, Ill.
HOUSE, R. B.,	Springfield, Ohio.
HOWARD, E. M.,	Camden, N. J.
HOYT, M.,	Keokuk, Ia.
HUNT, C. R.,	New Bedford, Mass.
HUNT, J. S.,	Athens, Ohio.

HUNT, M. P.,	Columbus, Ohio.
HUSS, J. R.,	Eureka, Kan.
JAMES, B. W.,	Philadelphia, Pa.
JENKINS, C. G.,	Mason, Mich.
JENKINS, R.,	Washington, D. C.
JEWETT, E. H.,	Cleveland, Ohio.
JOHNSON, R. B.,	Ravenna, Ohio.
JONES, L. M.,	Brooklyn, Mich.
JUMP, JULIA C.,	Oberlin, Ohio.
KAHLKE, C. E.,	Chicago, Ill.
KARST, F. A.,	Chicago, Ill.
KELLOGG, E. M.,	New York, N. Y.
KERCH, H. E.,	Dundee, Ill.
KING, W. H.	New York, N. Y.
KING, W. R.,	Washington, D. C.
KINGSMAN, R.,	Washington, D. C.
KINNE, THEO. Y.,	Paterson, N. J.
KINYON, C. B.,	Rock Island, Ill.
KNIGHT, S. H.,	Detroit, Mich.
KRAFT, F.,	Cleveland, Ohio.
KREIDER, M. K.,	Goshen, Ind.
LEAVITT, H. H.,	Minneapolis, Minn.
LEAVITT, S.,	Chicago, Ill.
LEE, J. M.,	Rochester, N. Y.
LEHMAN, F. F.,	Sandusky, Ohio.
LENFESTEY, J. A.,	Mt. Clemens, Mich.
LESEURE, OSCAR,	Detroit, Mich.
LEWIS, F. P.,	Buffalo, N. Y.
LINN, A. M.,	Des Moines, Ia.
LINNELL, E. H.,	Norwich, Conn.
LLEWELLYN, H. S.,	La Grange, Ill.
LONG, O. R.,	Ionia, Mich.
LUDLAM, R.,	Chicago, Ill.
MACCRACKEN, W. P.,	Chicago, Ill.
MACLACHLAN, D. A.,	Detroit, Mich.
MARSHALL, R. S.,	Pittsburg, Pa.
MARTIN, F. V.,	Westville, Ind.
MARTIN, W. J.,	Pittsburg, Pa.
MAXWELL, L. K.,	Toledo, Ohio.
MCCAULEY, J. C.,	Rochester, Pa.
MCCLELLAND, J. H.,	Pittsburg, Pa.
MCCORMICK, A. L.,	Cincinnati, Ohio.
MCDERMOTT, G. C.,	Cincinnati, Ohio.
MCELWEE, L. C.,	St. Louis, Mo.
MCINTYER, E. R.,	Chicago, Ill.
MCLAREN, W. R.,	Detroit, Mich.
MEADE, S. J. D.,	Cincinnati, Ohio.
MEANS, J. W.,	Troy, Ohio.
MENNINGER, C. F.,	Topeka, Kan.
MIDDLETON, C. S.,	Philadelphia, Pa.
MILLER, C. C.,	Detroit, Mich.
MILLER, E. R.,	Leominster, Mass.

MILLS, W. J.,	Howell, Mich.
MILLSOP, S. J.,	Bowling Green, Ky.
MITCHELL, C.,	Chicago, Ill.
MITCHELL, J. S.,	Chicago, Ill.
MONROE, A. L.,	Louisville, Ky.
MOON, S. B.,	Beaver Falls, Pa.
MOORE, J. H.,	Brookline, Mass.
MORRILL, E. C.,	Norwalk, Ohio.
MOWRY, H. P.,	Bronson, Mich.
MYERS, P. G.,	Aurora, Ill.
NEUMEISTER, A. E.,	Kansas City, Mo.
NEWELL, R. C.,	Chicago, Ill.
NORRIS, M. W.,	Grand Rapids, Mich.
NORTON, A. B.,	New York, N. Y.
NOTTINGHAM, D. M.,	Lansing, Mich.
NOTTINGHAM, J. C.,	Bay City, Mich.
O'BRIEN, E. Y.,	Washington, D. C.
O'CONNER, J. T.,	New York, N. Y.
OLIN, R. C.,	Detroit, Mich.
ORLEMAN, E. L.,	Detroit, Mich.
ORMES, F. D.,	Jamestown, N. Y.
OWENS, WM.,	Cincinnati, Ohio.
PATTON, H. M.,	Montreal, Can.
PAULY, C. A.,	Cincinnati, Ohio.
PECK, G. B.,	Providence, R. I.
PENNOYER, N. A.,	Kenosha, Wis.
PERKINS, C. W.,	Chester, Pa.
PHILLIPS, W. A.,	Cleveland, Ohio.
PIERSON, H. W.,	Chicago, Ill.
PORTER, E. H.,	New York, N. Y.
PRATT, E. H.,	Chicago, Ill.
PRATT, T.,	Media, Pa.
PRICE, E. C.,	Baltimore, Md.
PROBERT, C. G.,	Huron, Ohio.
PULLEN, C. D.,	Mt. Pleasant, Ohio.
QUAY, G. H.,	East Cleveland, Ohio.
RAND, J. P.,	Worcester, Mass.
REID, R. G.,	Louisville, Ky.
RICE, M. S.,	Aurora, Ill.
RICHARDS, R. M.,	Detroit, Mich.
RICHARDSON, W. C.,	St. Louis, Mo.
ROBERTS, G. W.,	New York, N. Y.
ROYAL, GEORGE,	Des Moines, Ia.
RUMSEY, C. L.,	Baltimore, Md.
RUNNELLS, O. S.,	Indianapolis, Ind.
RUSH, R. B.,	Salem, Ohio.
RUSSELL, H. A.,	West Superior, Wis.
RUST, E. G.,	Cleveland, Ohio.
SAGE, N. L.,	Detroit, Mich.
SAWYER, C. E.,	Marion, Ohio.
SAXTON, A. W.,	Jackson, Mich.
SHEARER, T. L.,	Baltimore, Md.

SHEARS, G. F.,	Chicago, Ill.
SHERMAN, LEWIS,	Milwaukee, Wis.
SHERMAN, N. B.	Kalamazoo, Mich.
SHOEMAKER, G. L.,	Nappanee, Ind.
SIGRIST, C. W.,	New Philadelphia, O.
SIGRIST, P. H.,	New Philadelphia, O.
SINCLAIR, D. J.,	Woodstock, Ont., Can.
SINCLAIR, M. C.,	Grand Rapids, Mich.
SKILES, H. P.,	Chicago, Ill.
SMITH, C.,	Portland, Mich.
SMITH, C. C.,	Bedford, Mich.
SMITH, DUDLEY,	Cleveland, Ohio.
SMITH, D. T.,	Jackson, Mich.
SMITH, H. M.,	New York, N. Y.
SMITH, J. H.,	Chicago, Ill.
SPALDING, H. E.,	Boston, Mass.
STERLING, C. F.,	Detroit, Mich.
STEVENS, MARY T.,	Detroit, Mich.
STEVENS, R. H.,	Detroit, Mich.
STETTLER, C. S.,	Chicago, Ill.
STOUT, H. R.,	Jacksonville, Fla.
SUTHERLAND, J. P.	Boston, Mass.
SWAN, C. J.,	Chicago, Ill.
SWORMSTEDT, L. B.,	Washington, D. C.
TALBOT, I. T.,	Boston, Mass.
TALBOT, MRS. I. T.,	Boston, Mass.
TENNANT, C. E., JR.,	Denver, Colo.
THOMPSON, J. J.,	Chicago, Ill.
TRIEM, P. E.,	Manchester, Ia.
TUCKER, G.,	Pueblo, Colo.
TURNER, ESTELLE.	Cincinnati, Ohio.
TUTHILL, F. S.,	Concord, Mich.
VAN BAUN, W. W.,	Philadelphia, Pa.
VAN DENBURG, M. W.,	Ft. Edward, N. Y.
VAN LENNEP, W. B.,	Philadelphia, Pa.
VAN VLECK, P. H.,	Sturgis, Mich.
WALKER, J. M.,	Denver, Colo.
WALTER, R.,	Walter's Park, Pa.
WALTON, C. E.,	Cincinnati, Ohio.
WATTS, WILLIAM,	Toledo, Ohio.
WEIRICK, C. A.,	Chicago, Ill.
WELLS, G. S.,	Sisterville, W. Va.
WESSELHOEFT, C.,	Boston, Mass.
WHITE, T. C.,	Rochester, N. Y.
WHEELER, A. E.,	Los Angeles, Cal.
WILBERTON, L. G..	Winona, Minn.
WILCOX, D. G.,	Buffalo, N. Y.
WILLARD, MARY A.,	Detroit, Mich.
WILSON, H.,	West Detroit, Mich.
WILSON, J. H.,	Bellefontaine, Ohio.
WILSON, T. P.,	Detroit, Mich.
WOLCOTT, E. H.,	Rochester, N. Y.

Wood, O. S.,	Omaha, Neb.
Wood, J. C.,	Cleveland, Ohio.
Youngman, M. D.,	Atlantic City, N. J.

The states were represented as follows:

Arkansas,	3	Massachusetts,	18
California,	1	Michigan,	53
Canada,	3	Minnesota,	5
Colorado,	4	Missouri,	11
Connecticut,	1	Nebraska,	5
District of Columbia,	8	New Jersey,	5
Florida,	1	New York,	24
Illinois,	53	Ohio,	51
Indiana,	6	Pennsylvania,	23
Iowa,	6	Rhode Island.	1
Kansas,	2	West Virginia,	1
Kentucky,	4	Wisconsin,	6
Louisiana,	1		
Maine,	1	Total,	301
Maryland,	4		

Visitors in Attendance.

ADAMS, F. P.,	Plymouth, Mich.
ADAMS, F. J.,	Westboro, Mass.
ADAMS, MRS. M. W.,	Westboro, Mass.
AGNEW, W. S.,	Chicago, Ill.
ALLEN, C. L.,	Marion, Ohio.
ALLEN, J. S.,	New York City.
ANDREWS, MISS A. M.,	Detroit, Mich.
ARNOLD, L. M.,	Detroit, Mich.
ARTHUR, H. H.,	Lansing, Mich.
ATWELL, B.,	Detroit, Mich.
AVERY, MRS. A. B.,	Pontiac, Mich.
AYERS, J. M.,	Kalamazoo, Mich.
BABCOCK, C. F.,	Wyandotte, Mich.
BABCOCK, J. N.,	Detroit, Mich.
BACON, GRACE,	Climax, Mich.
BAILEY, MRS. W. M.,	Detroit, Mich.
BAKER, M. D.,	Climax, Mich.
BALCH, C. W.,	New York, N. Y.
BALDINGER, A. F.,	Cleveland, Ohio.
BALDWIN, MRS. H. D.,	Eyrie, Ohio.
BALYEAT, MRS. E. A.,	Kalamazoo, Mich.
BANFORTH, MRS. F.,	Detroit, Mich.
BARBEE, B. I.,	Columbus, Ohio.
BARNHILL, J. W.,	Napoleon, Ohio.
BARNHILL, MRS. J. W.,	Napoleon, Ohio.
BARRY, MISS J.,	Detroit, Mich.
BARTON, MRS. A. H.,	Camden, N. J.
BAUGHMAN, I. J.,	Akron, Ohio.
BAUGHMAN, MRS. I. J.,	Akron, Ohio.
BEARCE, C. A.,	Brush St. Depot.
BEATTY, MRS. W. I.,	Welland, Ont.
BECKWITH, MRS. D. H.,	Cleveland, Ohio.
BEEBE, L. E.,	Sidney, Ohio.
BEEBE, MRS. H. E.,	Sidney, Ohio.
BEORIDGE, G. J.,	Detroit, Mich.
BISSELL, A. D.,	Leroy, N. Y.
BOOTH, C. H.,	Detroit, Mich.
BOWERS, H. G.,	Canton, Ohio.
BOZARTH, C. A.,	Schoolcraft, Mich.
BRABB, ALICE A.,	Romeo, Mich.
BRADT, G. H.,	Detroit, Mich.
BRANCH, C. J.,	Chicago, Ill.
BROOKER, C. H.,	Lansing, Mich.
BROOKS, A. A.,	Orrville, Ohio.
BROOKS, MRS. A. A.,	Orrville, Ohio.

BROOKS, R.,	Orrville, Ohio.
BRUCE, J. D.,	Detroit, Mich.
BUCHANAN, J. B.,	Detroit, Mich.
BUMILLER, THEO.,	Cincinnati, Ohio.
CADIEUX, H. W.,	Grosse Pt, Mich.
CAHOON, T. J.,	Detroit, Mich.
CALDWELL, J. H.,	New York, N. Y.
CANFIELD, E. J.,	Middlefield, Ohio.
CANFIELD, G. M.,	Detroit, Mich.
CASTLE, MISS J.,	Detroit, Mich.
CHAFFEE, BELLE M.,	Detroit, Mich.
CHAFFEE, IDA F.,	Detroit, Mich.
CHAMPLAIN, P.,	Towanda, Pa.
CHASE, MRS. H. L.,	Cambridgeport, Mass.
CHASE, T.,	Dexter, Mich.
CLAPP, MRS. H. B.,	Chicago, Ill.
CLAPP, W. F.,	Fairport, N. Y.
CLARK, G. F.,	Bay City, Mich.
CLARK, MRS. W. E.,	Three Rivers, Mich.
CLARKE, MRS. G. E.,	Stillwater, Mich.
CLEVELAND, B. L.,	Flint, Mich.
COFFEEN, C. R.,	Piqua, Ohio.
COFFEEN, MISS M. B.,	Piqua, Ohio.
COLE, R. J.,	Detroit, Mich.
COLLINS, C. D.,	Chicago, Ill.
COMSTOCK, MRS, T. G.,	St. Louis, Mo.
COOLEY, B.,	Baltimore, Md.
COOTE, CHARLES,	Detroit, Mich.
COPELAND, MRS., R. S.,	Ann Arbor, Mich.
COSTAIN, MRS. F. E.,	Chicago, Ill.
COWELL, MRS. J. H.,	Saginaw, Mich.
CRUM, MRS. J. D.,	Owosso, Mich.
CRUM, P. D.,	Owosso, Mich.
CRUMRINE, MRS. C. G.,	Detroit, Mich.
CULBERTSON, C. A.,	Cincinnati, Ohio.
CUSTIS, G.,	Washington, D. C.
CUSTIS, HORACE,	Washington, D. C.
CUSTIS, MRS. J. B. G.,	Washington, D. C.
CUSTIS, MISS K.,	Washington, D. C.
DELANO, T. J., JR.,	Boston, Mass.
DELAMATER, MRS. N. B.,	Chicago, Ill.
DELBRIDGE, J. B.,	Chicago, Ill.
DEWEY, MRS. W. A.,	New York, N. Y.
DINSMORE, MRS. M. H.,	Sharpsburg, Pa.
DIXON, WALTER,	Detroit, Mich.
DOBSON, L. A.,	Battle Creek, Mich.
DORMAN, MRS. D. D.,	Detroit, Mich.
DORR, F. W.,	Fremont, Ohio.
DOUGAN, J. A.,	Indianapolis, Ind.
DUDLEY, FLORENCE,	Philadelphia, Pa.
DUDLEY, MARGARET,	Philadelphia, Pa.
DUFF, A. E.,	Great Belt, Pa

DURKEE, E. M.,	Detroit, Mich.
ELLIS, E. R.,	Detroit, Mich.
ELLIS, MISS J. R.,	Detroit, Mich.
EMERY, MISS L.,	Detroit, Mich.
EMERY, W. C,	Canton, Ohio.
ENGELBERT, E.,	Detroit, Mich.
FAHNESTOCK, MRS. J. C.,	Piqua, Ohio.
FAHNESTOCK, R.,	Piqua, Ohio.
FERRIN, MISS F.,	Detroit, Mich.
FINCH, MRS. N. A.,	Detroit, Mich.
FISCHER, J. R.,	Detroit, Mich.
FITZGERALD, C. E.,	Ann Arbor, Mich.
FOLSOM, E. G.,	Mt. Clemens, Mich.
FORD, R. W.,	New York, N. Y.
FORSYTHE, MRS. W. B.,	Sidney, Ohio.
FOSTER, MRS. W. D.,	Kansas City, Mo.
FOWLER, MRS. W. N.,	Ann Arbor, Mich.
FRASER, EDITH C.,	Detroit, Mich.
FREEMAN, CHARLES,	Detroit, Mich.
FREUND,	Detroit, Mich.
FREUND, J. A.,	Detroit, Mich.
FUNDIS, MRS. L.,	Pittsburg, Pa.
GALBRAITH, W. T.,	Cleveland, Ohio.
GARDNER, MRS. D.,	Detroit, Mich.
GARNER, E.,	Detroit, Mich.
GIRARD, MISS J.,	Windsor, Ont.
GOLTZ, G.,	Detroit, Mich.
GOODSELL, S.,	Alta Vista, Kan.
GORDON, H. E.,	Detroit, Mich.
GOULD, A. P.,	Canton, Ohio.
GRAHAM, A.,	Detroit, Mich.
GRAHAM, MISS CLARA,	Detroit, Mich.
GRIFFIN, J. W.,	Detroit, Mich.
GRIFFIN, MISS B.,	Detroit, Mich.
GREGORY, MRS. L.,	Dearborn, Mich.
GROSVENOR, D.,	Chicago, Ill.
GROSVENOR, MRS. L. C.,	Chicago, Ill.
GUE, MRS. A.,	Detroit, Mich.
HADCOCK, MISS I. R.,	Detroit, Mich.
HALLOCK, L. H.,	Sebewaing, Mich.
HALPHIDE, A. C.,	Chicago, Ill.
HANCHETT, MISS H.,	Omaha, Neb.
HARDING, G. D., JR.,	Marion, Ohio.
HARTER, F. D.,	Chicago, Ill.
HAYWARD, MRS. A. J.,	Mt. Clemens, Mich.
HAYWOOD, MISS E.,	Detroit, Mich.
HENDERSON, S. J.,	Detroit, Mich.
HILL, M. J.,	Sterling, Ill.
HILL, MRS. M. J.,	Sterling, Ill.
HINGSTON, MISS L.,	Chicago, Ill.
HITCHCOCK, MISS L. E.,	Geneva, Ohio.
HOGG, MISS M.,	Chicago, Ill.

HOLLIDAY, F. S.,	Detroit, Mich.
HONBERGER, MRS. F. H.,	Chicago, Ill.
HOLMES, REV. P.,	Chelsea, Mich.
HOOD, MRS. C. T.,	Chicago, Ill.
HORLICK, A. J.,	Racine, Wis.
HORLICK, MISS,	Racine, Wis.
HORLICK, WILLIAM,	Racine, Wis.
HOWARD, ETHEL R.,	Camden, N. J.
HUNT, MRS. A. V.,	New Bedford, Mass.
HUNT, MRS. J. S.,	Athens, Ohio.
JACKSON, MISS K.,	Detroit, Mich.
JENKINS, MRS. C. G.,	Mason, Mich.
JEWETT, MRS. E. H.,	Cleveland, Ohio.
JOLLY, MISS I.,	Detroit, Mich.
JONES, MISS F.,	Brooklyn, Mich.
JONES, MISS L.,	Piqua, Ohio.
JONES, MISS L. M.,	Brooklyn, Mich.
JOHNSON, MRS. R. B.,	Ravenna, Ohio.
JOHNSON, MISS NELLIE,	Ravenna, Ohio.
JOHNSON, MRS. R. P.,	Ravenna, Ohio.
JOHNSON, MRS. T. L.,	Pomona, Cal.
KARST, MRS. T. E.,	Chicago, Ill.
KERR, C. F.,	Ann Arbor, Mich.
KING, MRS. W. R.,	Washington, D. C.
KINGSMAN, EDNA,	Washington, D. C.
KINGSMAN, MRS. R.,	Washington, D. C.
KIRKLAND, W. H.,	Massillon, Ohio.
KNAPP, C. A.,	Detroit, Mich.
KNAPP, M. E.,	Detroit, Mich.
KNIGHT, MRS. S. H.,	Detroit, Mich.
KNOWLES, MRS. E. P.,	Saginaw, Mich.
KNOWLES, W. K.,	Boston, Mass.
KRAFT, MRS. F.,	Cleveland, Ohio.
KRAFT, LEO.,	Cleveland, Ohio.
KRAUSEP, F. H.,	Detroit, Mich.
KUHLMAN, H.,	Detroit, Mich.
LAMBERT, S. W.,	Detroit, Mich.
LAMBERT, W. C.,	Detroit, Mich.
LARRABEE, J. B.,	Boston, Mass.
LAMKIN, C.,	Detroit, Mich.
LAMOREAUX, J.,	Lansing, Mich.
LARRABEE, J. B.,	Louisville, Ky.
LAWSON, B. H.,	Detroit, Mich.
LEAVITT, MRS. S. H.,	Chicago, Ill.
LEE, CARRIE E.,	Rochester, N. Y.
LEE, MAUD I.,	Rochester, N. Y.
LENFESTY, MRS. J. A.,	Mt. Clemens, Mich.
LENOX, MISS,	Toronto, Can.
LE SEUR, MRS. O.,	Detroit, Mich.
LEWIS, MRS. F. P.,	Buffalo, N. Y.
LONG, MISS E.,	Minneapolis, Minn.
MACOMBER, I. E.,	Toledo, Ohio.

MACOMBER, MRS. A. E.,	Toledo, Ohio.
MACFARLAND, F. C.,	Detroit, Mich.
MAJUMDAR, J. M.,	Calcutta, India.
MANNASSAU, C.,	Detroit, Mich.
MANNASSAU, J.,	Monroe, Mich.
MARKS, MISS H. F.,	Detroit, Mich.
MARTIN, C. A.,	Detroit, Mich.
MARTIN, MISS L.,	Washington, D. C.
MARTIN, MRS. W. J.,	Pittsburg, Pa.
MATHERS, H. T.,	Sidney, Ohio.
MATHERS, MRS. E. T.,	Sidney, Ohio.
MCADAM, J.,	Detroit, Mich.
MCCALL, MRS. J. C.,	Detroit, Mich.
MCCALL, MISS M.,	Detroit, Mich.
MCCAULEY, MRS. J. C.,	Rochester, N. Y.
MCCORMACK, H. S.,	Detroit, Mich.
MCCOYL, MISS,	Detroit, Mich.
MCKENDREE, E. J.,	Detroit, Mich.
MCMILLAN, ALEX.,	Detroit, Mich.
MEANS, J. H.,	Detroit, Mich.
MEANS, MRS. J. H.,	Detroit, Mich.
MERRIAN, W. H.,	Cleveland, Ohio.
MEYERS, J. H.,	Leslie, Mich.
MILLS, A. C.,	Monroe, Mich.
MILLS, C. A.,	Norwalk, Ohio.
MILLS, W. J.,	Howell, Mich.
MINER, F. A.,	Ann Arbor, Mich.
MITCHELL, J., J.,	Detroit, Mich.
MOON, MRS. S. B.,	Beaver Falls, Pa.
MOORE, F. D.,	Chicago, Ill.
MOWRY, MRS. H. P.,	Bronson, Mich.
MURRAY, J. I.,	Detroit, Mich.
NEUMEISTER, MRS. A. E.,	Kansas City, Mo.
NUTTEN, MRS. W. L.,	Detroit, Mich.
NUTTEN, W. L.,	Detroit, Mich.
ORLEMAN, MISS E.,	Detroit, Mich.
PAINE, MISS E. F.,	New York, N. Y.
PALMER, F. E.,	Albion, Mich.
PARMALEE, M. H.,	Toledo, Ohio.
PELTON, MISS S. A.,	Cleveland, Ohio.
PENNINGTON, F.,	Detroit, Mich.
PENNOYER, J. E.,	Detroit, Mich.
PENNOYER, MRS. N. A.,	Kenosha, Wis.
PERRY, MISS E. M.,	Detroit, Mich.
PFANNEUSCHMIDT, F. A.,	Detroit, Mich.
PHELPS, C. M.,	Racine, Wis.
PINTLER, H. E.,	St. Mary's, Ohio.
PITCHER, F. F.,	Battle Creek, Mich.
PLESSNER, P.,	Fremont, Ohio.
PLESSNER, FRED.,	Saginaw, Mich.
PLESSNER, MRS. F.,	Saginaw, Mich.
PLUMMER, MISS L.,	Detroit, Mich.

PORTER, MRS. E. H.,	New York, N. Y.
RALSTON, ROSE A.,	Cleveland, Ohio.
RANDOLPH, MRS. E.,	Detroit, Mich.
REED, MISS ETHEL,	Toledo, Ohio.
REED, MRS. R. G.,	Louisville, Ky.
REICHRATH, MRS. J. A.,	Detroit, Mich.
REINEN, W. H.,	Detroit, Mich.
REYNOLDS, J. C.,	Battle Creek, Mich.
REYNOLDS, J. M.,	Grand Haven, Mich.
REYNOLDS, MRS. J. C.,	Battle Creek, Mich.
RICE, MRS. M. S.,	Aurora, Ill.
RICHARDS, MRS. R. M.,	Detroit, Mich.
RIEKEN, MISS I.,	Milwaukee, Wis.
RILEY, P. O.,	Greenville, Pa.
ROBERTS, H. G.,	Indianapolis, Ind.
ROBERTS, J. D.,	Indianapolis, Ind.
ROBERTS, MRS. G. W.,	New York, N. Y.
ROBERTS, R. B.,	Indianapolis, Ind.
ROBERTSON, G. A.,	Battle Creek, Mich.
ROBERTSON, MRS. G. A.,	Battle Creek, Mich.
ROGERS, MISS I.,	Detroit, Mich.
ROLL, A. C.,	Toledo, Ohio.
RUDY, R. C.,	Detroit, Mich.
RUNNELLS, MRS. O. S.,	Indianapolis, Ind.
RUSH, MRS. M. A.,	Salem, Ohio.
RYAN, CHARLES W.,	Ypsilanti, Mich.
SANDALL, L. B.,	Au Sable, Mich.
SANDERSON, S. E.,	Detroit, Mich.
SAUTER, G.,	Detroit, Mich.
SAWYER, C. W.,	Marion, Ohio.
SAWYER, MRS. C. E.,	Marion, Ohio.
SCHENCK, MRS. H. D.,	Brooklyn, N. Y.
SCHMIDT, M.,	Cincinnati, Ohio.
SCHRIBER, S. H.,	St. Paul, Minn.
SEELEY, J. W.,	Detroit, Mich.
SHEARS, MRS. G. F.,	Chicago, Ill.
SHERARD, C. C.,	Detroit, Mich.
SHERMAN, L., JR.,	Milwaukee, Wis.
SHERMAN, MISS L.,	Milwaukee, Wis.
SHERMAN, MISS G.,	Milwaukee, Wis.
SHERMAN, MISS H.,	Milwaukee, Wis.
SHERRARD, E.,	Detroit, Mich.
SHEWELL, CHARLES T.,	St. Louis, Mo.
SHIPLEY, J. T.,	Detroit, Mich.
SIMMONS, MRS. N. R.,	Toledo, Ohio.
SIMMONS, N. R.,	Toledo, Ohio.
SIMMONS, S. E.,	Norwalk, Ohio.
SINCLAIR, MRS. D. J.,	Woodstock, Ont.
SLACK, W. L.,	Saginaw, Mich.
SMITH, A. B.,	Ravenna, Ohio.
SMITH, A. D.,	Angola, Ind.
SMITH, HELEN P.,	Chicago, Ill.

SMITH, MRS. H. M.,	New York, N. Y.
SPARKS, K. M.,	Detroit, Mich.
SPEARS, C. S.,	Quincy, Mich.
SPRENG, MRS. T. F. H.,	Sioux City, Ia.
STARR, L. W.,	Battle Creek, Mich.
STARR, MRS. J. A.,	Battle Creek, Mich.
STARRING, D. A.,	Detroit, Mich.
STERLING, C. T.,	Detroit, Mich.
STERLING, MISS F.,	Detroit, Mich.
STERLING, MISS C.,	Detroit, Mich.
STEVENS, C. B.,	Detroit, Mich.
STEVENS, E.,	Philadelphia, Pa.
STEVENS, MRS. C. B.,	Detroit, Mich.
STEWART, F. E.,	Detroit, Mich.
STONE, C. G.,	Detroit, Mich.
STRONG, C. H.,	Toledo, Ohio.
STRUM, V. H. S.,	St. Louis, Mo.
STUART, F. W.,	Milan, Ohio.
SWAN, MISS L. N.,	Detroit, Mich.
TAYLOR, THOMAS E.,	Detroit, Mich.
TEGARHEN, J. L.,	Detroit, Mich.
THEAKER, R. M.,	Chicago, Ill.
THOMAS, C. C.,	Detroit, Mich.
THOMPSON, A. H.,	La Peer, Mich.
THOMPSON, G. B.,	Chicago, Ill.
THOMPSON, J. A.,	McComb, Ohio.
THOMSON, C. M.,	Rochester, N. Y.
TROY, E. H.,	Detroit, Mich.
TUCKER, LEROY,	Detroit, Mich.
VAN DE LINDER, E. M.,	Beloit, Wis.
VAN METER, J. B.,	Baltimore, Md.
VAN SANT, MRS. W. E.,	Detroit, Mich.
VAN VLECK, MRS. P. H.,	Sturgis, Mich.
WAITE, H. F.,	New York, N. Y.
WALTON, MRS. C. E.,	Cincinnati, Ohio.
WARD, MRS. F.,	Battle Creek, Mich.
WATTLES, J. H.,	Battle Creek, Mich.
WAY, MRS. F. B.,	Detroit, Mich.
WEBB, MRS. E. P.,	Detroit, Mich.
WEEKS, M. D.,	Albion, Mich.
WEISWANGER, C. S.,	Chicago, Ill.
WELLS, MRS. G. G.,	Sistersville, W. Va.
WENDELL, A.,	Detroit, Mich.
WHITE, MRS. F. C.,	Rochester, N. Y.
WHITMAN, J. A.,	Beaufort, S. C.
WILBERTON, MRS. L. G.,	Winona, Minn.
WILSON, E. G.,	Adrian, Mich.
WILSON, E. J.,	Bellefontaine, Ohio.
WILSON, MISS L.,	Bellefontaine, Ohio.
WILSON, MISS M. A.,	Bowling Green, Ky.
WILSON, MISS NELLIE,	Deerfield, Ohio.
WILSON, MRS. J. H.,	Bellefontaine, Ohio.

WILSON, MRS. T. P.,	Cleveland, Ohio.
WOOD, E. T.,	Detroit, Mich.
WOOD, J.,	Cleveland, Ohio.
WOOD, MISS A.,	Detroit, Mich.
WOOD, MRS. J. C.,	Cleveland, Ohio.
WOODWARD, MRS. W. H.,	Detroit, Mich.
WOOSTER, MRS. W. F.,	Elyria, Ohio.
WUESTOFF, L.,	Detroit, Mich.
YAKEY, C. L.,	Lima, Ohio.
YOUNG, C. S.,	Detroit, Mich.
YOUNGMAN, MRS. M. D.,	Atlantic City, N. J.

Total, ... 368.

RECAPITULATION.

Members,	301
Visitors,	368
Total,	669

Notices of Deceased Members.

By Henry M. Smith, M.D., Necrologist, New York, N. Y.

SAMUEL MINTER ANGELL, M.D.

At the forty-fourth session of the Institute, and the fourth quinquennial session of the International Homœopathic Congress, held at Atlantic City in 1891, Dr. Angell, of New Orleans, was present and elected to membership.

Dr. Richard Angell, the father of Samuel, was the son of a merchant in Scotland, and one of several brothers, physicians, who came to this country and settled in different sections. Samuel was born in Jefferson county, Miss., August 2, 1833. While he was young his father removed to Huntsville, Ala., where young Angell, when twenty years old, began the study of medicine with him. He attended lectures in the Eclectic Medical College of Cincinnati during the session of 1854–55, and the following year a course at the old Medical School of Louisiana, now a part of the Tulane University. In the winter of 1856–57 he attended lectures at the Homœopathic Medical College of Pennsylvania, receiving his degree therefrom in the spring of 1857. He subsequently graduated from an old-school college in Louisville, Ky.

He settled in New Orleans in 1858, in practice with his father, which partnership lasted twenty-one years, until the latter's death in 1879. During the yellow fever epidemic in 1878, Dr. Angell became well known for his success in its treatment.

He died in New Orleans, October 5, 1895, leaving a widow, formerly Miss Laura Newcome, of Mississippi, two daughters and two sons.

THOMAS RAKESTRAW BLACKWOOD, M.D.

At the same session of the Institute, Dr. Blackwood was present, and was one of the two hundred and thirty-eight newly elected members.

Dr. Blackwood was the son of John and Susan Rakestraw Blackwood. He was born in Moorestown, N. J., July 30, 1835. After attending school at Moorestown and Mount Holly, he studied medicine with Dr. G. B. L. Clay, of the former place, and attended lectures during the session of 1868–69 at the Homœopathic Medical College, Philadelphia, graduating therefrom in the spring of 1870. He practiced for one summer at Atlantic City, whence he removed to Camden, N. J., continuing there until his death, July 30, 1895. He was married December 1, 1864, to Miss Henrietta K. Clark, who survives him.

THOMAS CULLYHILL BRADFORD, M.D.

At the eighteenth annual meeting of the Institute, held in Cincinnati, in 1865, Dr. Bradford of that city was one of the forty-four members elected, of whom nine senior members remain.

Dr. Bradford was of Scotch-Irish descent, the son of David and Mary A. Bradford, born in Cincinnati, October 3, 1835. After completing a common school education, he began the study of medicine with Dr. George Mendenhall, of Cincinnati, and attended lectures at the Jefferson College of Philadelphia, session 1862–63, and the following year became a student at the Bellevue Hospital Medical College, New York City, where he graduated, March 3, 1864. He entered at once into practice in Cincinnati, where he continued to the time of his death, March 13, 1896. He married Miss Martha A. McCroskey, who survives him, two sons having died at the ages of three and five years, and the third, eighteen years of age, eight months before his father. Dr. Bradford was one of the incorporators of the Pulte Medical College, Cincinnati, and for several years was Professor of Gynæcology.

JAMES WILLIAM COX, M.D.

At the session of the Institute in Albany, in 1854, Dr. J. W. Cox, of that city, was one of the thirty-three newly elected members, of whom Drs. Burgher, Sisson and Watson are now the only seniors. Dr. Cox was born at Gilbertsville, N. Y., February 5, 1828. He studied medicine with Dr. Henry D. Paine, then of Albany, attended lectures at the Albany Medical College from 1849 to 1852, graduating therefrom January 27, 1852, and beginning practice in Albany. During the war of the Rebellion he was examining surgeon. Dr. Cox died June 9, 1896.

CHARLES REEVES CLOUD, M.D.

At the session of the Institute held in Boston, in 1869, Dr. Cloud, of Burlington, N. J., was one of the two hundred and twelve new members of whom the names of thirty-eight are now in the list of seniors.

He was the son of John W. and Ann R. Cloud, and was born at Woodbury, N. J., January 26, 1844. He was a member of the Society of Friends, and, after attending school at Woodbury, was a scholar at the Friends' Boarding School at Westtown, near West Chester, Pa. In 1864 he began the study of medicine with Dr. Daniel R. Gardiner, of Woodbury, attended lectures at the Homœopathic Medical College of Pennsylvania, and graduated in the spring of 1867, when he located at Burlington, N. J., where he soon built up a large practice, in which he continued until the fall of 1875, when failing health compelled his retirement from practice, and he removed to West Hill, near Burlington, where he died, December 7, 1876, leaving a widow, Annie E., the daughter of Joseph K. Bacon, whom he married in 1874.

EDWARD EVERETT DAVIS, M.D.

Dr. Davis attended the session of the Institute held at Niagara Falls in 1853, and was one of the fifty-three new members elected. He was born in Westport, Mass., February 7, 1833, educated at the high school, studied medicine with Dr. Albert H. Tompkins, of Jamaica Plain, attended lectures at the Hahnemann Medical College of Philadelphia from 1878 to 1881, graduating at the latter date. After graduating he began practice in Philadelphia, where he continued, with the exception of a few months spent in Harrisburg, up to the time of his death,

April, 1892. He contributed an article on "Dental Hygiene for Children" at the session of the Institute in 1884. He was a member of the Philadelphia County Homœopathic Society and also of the Pennsylvania State Homœopathic Society.

ANNIE BISSELL DILLON, M.D.

Among the one hundred and thirty-two newly elected members at the session of the Institute at Denver, in 1891, was Dr. Dillon, of Minneapolis, who was in attendance.

She was the daughter of Levi and Eliza N. Dillon, and was born in Pittsburg, Pa., December 3, 1864. At the age of six years she was sent to the Franklin public school, and in 1881 she entered the Pittsburg High School, a year later becoming a freshman of the Mount Pleasant Institute, where she graduated June 17, 1885. In October, 1889, she matriculated at the Homœopathic Department of the Michigan University, from which she graduated in 1892. After graduating she entered the office of Dr. Martha G. Ripley, of Minneapolis, where she remained until the winter of 1894, when, on account of ill health, she went to Denver and later to San Diego, Cal., where she died June 7, 1895.

JOAB R. FLOWERS, M.D.

Dr. Flowers was one of the ninety-four members elected at the meeting of the Institute in Chicago, in 1870, and would have been an additional one to the fifteen who acquired seniority last year had he lived a few weeks longer.

Dr. Flowers was born on a farm in New Lisbon, Ohio, July 25, 1835. The outdoor work and exercise developed a fine physique. He studied medicine with his father, Dr. F. L. Flowers, at Lancaster, O., and Dr. E. W. Hamilton, of Columbus, attended lectures at the Starling Medical College during the session of 1855–56 and at the Western Homœopathic College, at Cleveland, 1860–61, graduating therefrom in the spring of the latter year. As a young man he became very much interested in municipal affairs, and was elected a member of the City Council of Columbus for six years and was the president one year; was apothecary of the Ohio Lunatic Asylum, 1857–59, and assistant physician of the Ohio Penitentiary, 1859–62; was physician of the State Institute for the Education of the Blind from 1880 to 1884, and one of the original members of the Ohio State Homœopathic Society, and its president in 1875. He died May 27, 1895.

EMMA CORA GEISSE, M.D.

At the meeting of the Institute held at Minnetonka Beach, in 1889, Dr. Geisse was one of the one hundred and twenty-five new members.

She was of German ancestry, the daughter of Philip I. and Lydia Meyer Geisse, and was born in Wellesville, O., April 5, 1846. Her granduncle, William Geisse, was the first patient treated homœopathically in Philadelphia, and is spoken of by Dr. Hering as a valued friend from whom he received hearty co-operation. Dr. Geisse received her preliminary education at a seminary in Pittsburg. She studied medicine with Dr. Horace Packard, of Boston, graduated from the Boston University School of Medicine in 1885. After graduating she began as an interne at Murdock's Hospital. Three years later she removed to Detroit,

where she entered into partnership with Dr. Virginia T. Smith, and remained until 1891, when she became an office assistant of Dr. Julia Holmes Smith, in Chicago, for whom she performed surgical operations very satisfactorily. She was one of the reception committee of the homœopathic physicians during the World's Fair in 1893, and the resident homœopathic physician of the Illinois Woman's Hospital and Training School Exhibit of the World's Columbian Exposition. It had been decided to have on the Fair grounds a working hospital as an exhibition of the success of women in the practice of medicine, in which were to be represented the three schools of medicine. The Older, Eclectic and Homœopathic schools worked harmoniously together in a special building erected by Mr. Higginbotham, the patients deciding for themselves which method of practice they would prefer. On the closing day the books showed 1012 patients had been treated homœopathically, a greater number than had been treated by either of the other schools. Dr. Geisse was a member of various medical associations and vice-president of the County Homœopathic Association. She died November 25, 1895. She made a specialty of surgery.

PETER ALBERT GORDON, M.D.,

Was elected member of the Institute in 1876, at the session in Philadelphia. He was born in Mason county, Ky., November 20, 1844, studied medicine with Drs. McGranaghan and Martin, of Maysville, Ky., attended lectures at the Homœopathic Medical College of Pennsylvania, sesson of 1866–67, and the New York Homœopathic Medical College in 1867–68, graduating from the New York College in 1868. After graduating he began practice in Jersey Ridge, Mason county, Ky., where he remained until June, 1871, removing thence to Flemingsburg, Ky., where he continued until his death, February 2, 1891.

FRANCES IDA HENDERSON, M.D.

Dr. Henderson was present at the session of the Institute in Chicago, in 1893, and was one of the eighteen women elected to membership.

She was the daughter of William M. and Mary B. Haskins Henderson, and was born near Titusville, Crawford county, Pa., February 2, 1856. After graduating from the High School in Titusville, in 1872, she attended the Clinton Liberal Institute at Clinton, N. Y., graduating therefrom in 1874. She studied medicine with Dr. Canfield, attended lectures at the Cleveland Homœopathic Hospital College, and graduated therefrom in 1888. She afterwards spent one year in Boston attending a post-graduate course. After spending some time in travelling through the Southern and Western States, she opened an office and began practice in Titusville in 1890, where she continued until her death, November 13, 1895.

JOSEPH VIRGINIUS HOBSON, M.D.

Dr. Hobson was elected member of the Institute at the session in Boston, in 1859, becoming therefore a senior in 1886.

He was the son of Joseph and Mary Mumford Hobson; was born in Cumberland county, Va., November 11, 1810. His parents removed to Powhatan

county, Va., where his father purchased the estate of Blenheim, where his boyhood was passed. He graduated from Hampden Sydney College, and in 1828 from William and Mary College. Beginning the study of medicine the following year with Dr. Thomas Nelson, of Richmond, Va., he attended lectures at the University of Virginia in 1829, and at the University of Pennsylvania in 1831–32, where he graduated in 1832, and began practice at Cartersville, Va. He spent the greater part of the years 1839–40 in Paris, studying under Chomel, Bouillard and Velpeau, and, returning in 1840, settled in Lynchburg. He returned to Powhatan in 1847, remaining in practice there until 1858. In 1856 his attention was called to Homœopathy by the perusal of Prof. Henderson's works on the subject and the cure of a case by Dr. John F. Gray, which led him to investigate and afterward adopt our school of practice, and he became and remained an enthusiastic follower of Hahnemann. In 1858 he removed to Richmond, but at the outbreak of the war returned to Blenheim, resuming practice at Richmond at the close of the war, where he continued until 1893, when advancing years obliging him to retire from active practice, he returned to Lynchburg, where he remained until his death, October 10, 1895.

STEPHEN WORCESTER HOPKINS, M.D.,

Of Lynn, Mass., was elected to membership in the Institute at its session at Saratoga, in 1887. Dr. Hopkins, the son of John T. and Matilda Hall Hopkins, was born in Irasburg, Vt., January 24, 1829. His early education was at Peacham Academy. In his younger days he practiced dentistry, which he was obliged to abandon on account of ill health, and, removing to Michigan, he became engaged in the lumber business. In 1877, having recovered his health, he returned east, entered as a student the Boston University School of Medicine, and graduated therefrom in 1880. He began practice in Lynn, Mass., where he continued until his death, June 23, 1895. He married Clara Thorpe, of Athol, Mass., who survives him with two sons, one of whom, William T. Hopkins, M.D., is a practicing homœopathic physician.

HENRY F. HUNT, M.D.,

Was one of the one hundred and fifty-six members elected at the meeting of the Institute held in New York, in 1867, becoming a senior in 1892. He was born in Providence, R. I., March 29, 1838. He attended the graded schools in Providence, and entered the Greenwich Seminary, but, on account of ill-health, was obliged to discontinue, and undertook the management of a cotton mill for his father, where he continued until the spring of 1860, when he went to Aurora, Ill., becoming a teacher in the seminary there. At the same time he began the study of medicine with Dr Howell, an old-school practitioner, with whom he remained two years, when he returned east and attended lectures at the Bellevue Hospital Medical College, New York City. While with Dr. Howell, the success of homœopathic treatment during an epidemic of diphtheria led him to study that method, and, returning to Providence, he entered the office of Dr. A. Howard Oakie, remaining there two years. He attended lectures and graduated from the Hahnemann Medical College of Philadelphia in 1864. On the death of Dr. J. R.

Andrews he succeeded to his practice in Camden, N. J., where he continued to the time of his death, which occurred while on a visit to Providence, October 3, 1895. He had been President of the New Jersey State Homœopathic Society, and also of the West Jersey Homœopathic Medical Society.

WILLIAM S. JACKSON, M.D.

Dr. Jackson was present at the session of the Institute at Chicago in 1893, and was elected to membership. He was the son of Enoch and Nancy Jackson, and was born near Wabash, Ind., in 1863. After graduating from the country schools, he attended two years at the South Wabash Academy, and afterward began the study of medicine with Dr. Wesley A. Dunn, and attended lectures at the Hahnemann Medical College of Chicago, from which he graduated in 1890. He began practice immediately in Bucyrus, O., where he continued until the fall of 1894, when ill-health, resulting from blood poisoning, compelled his leaving home and seeking benefit in the south, where, however, he died of tuberculosis, in May, 1895. He married Miss Rose Flora, of Springfield, O., in 1888, who survives him.

ERASMUS DARWIN JONES, M.D.

In the first list of members of the Institute, one hundred and fifty-two in number, published in 1846, appears the name of Dr. E. D. Jones, of Albany, N. Y.

He was born in Upper Jay, Essex county, N. Y., September 10, 1818, the son of Dr. Reuben Jones, whose father also was Dr. Reuben Jones, a prominent resident of Vermont during the Revolutionary period. He received an academic education at the Keesville Academy, studied medicine with Dr. Alden March, of Albany, attended lectures at the Albany Medical College, and graduated therefrom in 1841. He began practice at Keesville, N. Y., and while there entered on a thorough investigation of the principles of Homœopathy, was convinced of its superiority over the old method, and adopted it in 1844. In 1846 he removed to Albany, where he remained until his death, August 17, 1895. He held a commission as surgeon in the New York State Militia in 1842. His father was commissioned surgeon in the war of 1812, and his grandfather had held the position of surgeon in the Vermont Militia.

He was one of the founders and an original member of the Albany County Homœopathic Medical Society, having been present at its first meeting, held in 1861. He was elected President of the County Society at its third annual meeting in 1863, and elected as Delegate to the State Society from 1861 to 1864.

He was deeply interested in, and one of the founders of, the Albany Dispensary and Homœopathic Hospital. He was also one of the founders of the New York State Homœopathic Society, present at its organization in 1850, becoming at that time an active member, a permanent member in 1864 and a senior in 1876, and was elected its President in 1873.

He was one of the pioneers of Homœopathy in Albany; for many years one of its leading and most distinguished medical men.

He married, September 8, 1842, Miss Sarah Jane, daughter of Philip Phelps, who, with a son, Dr. Charles E. Jones, and a daughter, Mrs. T. E. Wadhams, survives him.

JAMES EDWARD LILIENTHAL, M.D.

At the meeting of the Institute at Saratoga, in 1886, among the names of seventy-five newly-elected members appears that of J. E. Lilienthal, of New York. Among those present at the session at Newport last year was Dr. Lilienthal, of San Francisco.

He was the oldest son of Dr. Samuel and Caroline Nettre Lilienthal, and was born October 3, 1844, in Hamburg, S. C., where his father had gone in quest of health. Dr. Lilienthal studied medicine with his father, attended the New York Homœopathic Medical College from 1877 to 1880, graduating in the spring of the latter year. The years 1880 and 1881 were spent in medical studies in the Universities of Vienna and Berlin. Returning home in 1881, he began practice in New York, in which he continued until 1887, when, on account of his father's ill-health, he removed with him to San Francisco, where he continued his residence and practice until his death, September 27, 1895. Dr. Lilienthal took prominent part in everything tending to the advancement of Homœopathy. He was an active and efficient member of the following organizations: A director of the Hahnemann Hospital College, San Francisco; one of the Professors of Materia Medica, and later Professor of Diseases of Children; Commissioner of Insanity; Superintendent of the Hahnemann and Southern Dispensaries: Consulting Physician to the San Francisco Nursery Home for Children; member of the California State Homœopathic Society, as well as the San Francisco County Homœopathic Medical Society, Organon and Materia Medica Club, and California State Board of Medical Examiners.

ANNA ELIZABETH P. EASTMAN MARSH, M.D.,

Was elected a member of the Institute at the meeting at Denver in 1894. She was born September 6, 1837, in Michigan. She had begun teaching at the age of fourteen years, when the sickness of a sister necessitated her removing from Detroit to Ann Arbor, where she occupied the position of teacher of mathematics in the High School. After ten years or more she began the study of medicine, attended the Homœopathic Department of the University of Michigan, where she graduated in 1879. She practiced in Denver until November 23, 1880, when she married Dr. Lebbeus E. Marsh, and removed to Greeley, Colo. She continued in practice in Greeley with her husband until she died, February 20, 1896, having had an attack of paralysis while at the bedside of a patient a fortnight before. She bequeathed her property to her alma mater to found a scholarship in the memory of her mother, to be known as "Dr. Anna E. P. Eastman's Scholarship."

ROBERT McMURRAY, M.D.,

Was elected a member of the Institute at its session in Pittsburg, in 1866, acquiring seniority in 1891. He was born of Scotch ancestry at Salem, Washington county, N. Y., January 17, 1817. He was the son of John and Margaret McMurray.

After pursuing his studies at Washington Academy, Salem, at the age of eighteen he began to study medicine with Drs. Allen and Stephenson. In 1838 he received a license to practice from the Washington County Medical Society,

and opened an office in his native town. He subsequently attended lectures at the College of Physicians and Surgeons, of the Western District of New York, at Fairfield, where he graduated in 1840. He formed a partnership with his preceptor, Dr Abraham Allen, and resumed his practice at Salem. In 1844 he was invited by his friend, Dr. Alfred Freeman, to come to New York. Dr. Freeman had been practicing Homœopathy for several years, and, after careful investigation, Dr. McMurray became convinced of its superiority over the old school and adopted it. He remained with Dr. Freeman six years, when he opened an office and began practice on his own account. He was one of the original members of the New York County Homœopathic Medical Society, elected vice-president in 1865 and president in 1868. In 1871 the honorary degree was conferred on him by the New York Homœopathic Medical College. In 1873 he was appointed to the chair of Clinical Medicine in the New York Medical College and Hospital for Women, and made medical director of the hospital. In 1878, having withdrawn from the professorship, he was elected a censor of the college. He occupied a similar position in the New York Homœopathic Medical College from 1885 until his removal from New York, in May, 1894, for a few months' vacation, after a continuance of fifty years in practice. He did not return to resume practice. He died April 15, 1896, leaving a widow, formerly Miss Gloriana S. Savage, the daughter of Thomas and Jane Muir Savage, whom he married at Argyle, N. Y., August 31, 1847.

WILLIAM SAMUEL MINER, M.D.,

Was present and elected a member of the Institute at the session in Denver, 1894. He was the son of Jacob G. and Jane M. Miner, and was born December 8, 1863, in Morrisania, since then part of New York City.

He attended the public schools until he was fourteen, when he entered the College of the City of New York, after graduating from which he entered the New York Homœopathic Medical College and received his diploma in 1884, having been a student of Dr. A. W. Phillips, of Birmingham, Conn. He was a member of the hospital staff on Ward's Island, and was afterwards connected with the Homœopathic Hospital at Pittsburg, Pa. In 1886 he began practice in Morrisania, where he continued about nine years, in the meantime opening an office in Harlem, where he died January 21, 1896. He married, March, 1892, Miss May Beach, who survives him.

SAMUEL STEWART MOFFATT, M.D.,

Of Washington, D. C., was elected a member of the Institute in 1892, at the session held in that city. He was of Irish descent, the son of John and Mary Anne Potter Moffatt. He was born April 22, 1856, at North Gower, Ontario. He had a common school education at North Gower, and, after teaching there for a number of years, attended lectures at the Homœopathic Department of the University of Michigan, where he graduated in 1878. After practicing a short time in Alpena, Mich., he spent three years with Boericke & Tafel, after which he practiced in Washington, where he died, April 25, 1896, having been run over by an electric car.

REGISTER OF MEMBERSHIP.

All members of the Institute who have maintained twenty-five consecutive years of membership shall be considered *Senior Members*, and be exempt from the payment of annual dues; and the names of such members shall be printed first in the list of members in capital letters.—*Article V., Section 6, of the By-Laws.*

There shall be published in each annual volume of the TRANSACTIONS: 1. A list of senior members arranged according to their years of membership. 2. An alphabetical list of members, including the names of senior members in CAPITALS. 3. A list of members classified by States. The list of deceased members shall be revised and republished annually. The complete list of members of the Institute from its organization and its Code of Ethics shall be published every five years. —*Article VIII., Section 4, of the By-Laws.*

Senior Members.

1844.

BOARDMAN, JOSEPH C., 213 Butler Street, Trenton, N. J.

1846.

BERENS, JOSEPH, 1500 Green Street, Philadelphia, Pa.
HALLOCK, LEWIS, 34 E. 39th Street, New York, N. Y.
RHEES, MORGAN J., Wheeling, W. Va.

1847.

CHASE, HIRAM L., 924 Massachusetts Avenue, Cambridgeport, Mass.
GUY, SAMUEL S., 2131 Gratz Avenue, Philadelphia, Pa.
SHACKFORD, RUFUS, Portland, Me.

1848.

GUERNSEY, EGBERT, "The Madrid," 180 W. 59th Street, New York, N. Y.
MARCY, ERASTUS E., 396 Fifth Avenue, New York, N. Y.
PALMER, MILES W., 235 E. 18th Street, New York, N. Y.
RAYMOND, JONAS C., 626 13th Street, Oakland, Cal.

1849.

RODMAN, WILLIAM V., New Haven, Conn.

1850.

PAINE, HORACE M., Atlanta, Ga.

1852.

HAMMOND, MILTON, 310 N. Paca Street, Baltimore, Md.

1853.

ANGELL, HENRY C., 16 Beacon Street, Boston, Mass.
BISSEL, ARTHUR F., 157 Maiden Lane, New York, N. Y.
HELMUTH, WILLIAM TOD, 504 Fifth Avenue, New York, N. Y.
PAINE, JOSEPH P., Hotel Eliot, Roxbury, Mass.
SKILES, FRANCIS W., Suffolk, Va.
TALBOT, I. TISDALE, 685 Boylston Street, Boston, Mass.

1854.

BURGHER, JOHN C., 960 Penn Avenue, Pittsburg, Pa.
SISSON, EDWARD R., New Bedford, Mass.
WATSON, WILLIAM H., 270 Genesee Street, Utica, N. Y.

1855.

FINCKE, BERNHARDT, 122 Livingston Street, Brooklyn, N. Y.
WILDER, LOUIS DEV., 55 W. 33d Street, New York, N. Y.

1857.

BALDWIN, JARED G., 8 E. 41st Street, New York, N. Y.
BECKWITH, SETH R., East Orange, N. J.
HATCH, PHILO L., 1901 San Pascual Street, Santa Barbara, Cal.
LUDLAM, REUBEN, 1823 Michigan Avenue, Chicago, Ill.

1858.

DETWILLER, JOHN J., Easton, Pa.
JONES, JOSEPH E., West Chester, Pa.
KELLOGG, EDWIN M., 19 E. 38th Street, New York, N. Y.
LOUGEE, WILLIAM H., Lawrence, Mass.
VERDI, TULLIO S., Washington, D. C.
WEST, EDWIN, 155 W. 12th Street, New York, N. Y.

1859.

HOUGHTON, Henry A., 136 Marlborough Street, Boston, Mass.
JAMES, BUSHROD W., cor. Green and 18th Streets, Philadelphia, Pa.
JEFFERDS, GEORGE P., Bangor, Me.
ORME, FRANCIS H., 70 N. Forsyth Street, Atlanta, Ga.
PRATT, LESTER M., Homer, N. Y.
SANDERS, ORREN S., 511 Columbus Avenue, Boston, Mass.
SHERMAN, JOHN H., 534 Broadway, Boston, Mass.
SPARHAWK, GEORGE E. E., Burlington, Vt.
WESSELHOEFT, CONRAD, 291 Boylston Street, Boston, Mass.
WESSELHOEFT, W. P., 176 Commonwealth Avenue, Boston, Mass.
WILSON, GROVE H., Meriden, Conn.

1860.

BRADFORD, F. STANDISH, 36 Maple Avenue, Morristown, N. J.
JOHNSON, ISAAC D., Kennett Square, Pa.
PAYNE, JAMES H., 344 Commonwealth Avenue, Boston, Mass.
SANDERS, JOHN C., 608 Prospect Street, Cleveland, O.
SMITH, HENRY M., 288 St. Nicholas Avenue, New York, N. Y.
SMITH, T. FRANKLIN, 264 Lenox Avenue, New York, N. Y.
WHITE, THEODORE C., 21 S. Clinton St., Rochester, N. Y.
WOOD, ORLANDO S., Omaha, Neb.

1865.

BECKWITH, D. H., 528 Prospect Street, Cleveland, O.
BOERICKE, FRANCIS E., Hammondsport, N. Y.
HALE, EDWIN M., 65 22d Street, Chicago, Ill.
HAYNES, J. R., 26 N. Illinois Street, Indianapolis, Ind.
KREBS, FRANCIS H., 42 Union Park, Boston, Mass.
OWENS, WILLIAM, cor. 7th and John Streets, Cincinnati, O.
RANKIN, JOHN S., cor. Roup and Howe Avenues, Pittsburg, Pa.
RUSH, R. B., 70 E. Main Street, Salem, O.
WILSON, T. P., 32 Adams Avenue, W. Detroit, Mich.

1866.

ALLEN, TIMOTHY FIELD, 10 E. 36th Street, New York, N.Y.
COGSWELL, C. H., 65 2d Avenue, Cedar Rapids, Ia.
COMSTOCK, T. GRISWOLD, 3401 Washington Avenue, St. Louis, Mo.
COOPER, J. F., 105 Arch Street, Allegheny City, Pa.
DAKE, B. F., 815 Penn Avenue, Pittsburg, Pa.
DUNCAN, T. C., 100 State Street, Chicago, Ill.
GARSIDE, WILLIAM B., East Orange, N. J.
JAMES, JOHN E., 1521 Arch Street, Philadelphia, Pa.
MITCHELL, J. S., 2954 Prairie Avenue, Chicago, Ill.
ROBINSON, S. A., West New Brighton, N. Y.
WETMORE, JOHN McE., 41 E. 29th Street, New York, N. Y.

1867.

ALBERTSON, J. A., 119 Powell Street, San Francisco, Cal.
BAYLIES, B. L. B., 418 Putnam Avenue, Brooklyn, N. Y.
BELL, JAMES S., Rock Valley, Ia.
BROWN, EDWARD V., North Tarrytown, N. Y.
CURRIER, C. B., 921½ Geary Street. San Francisco, Cal.
CUSHING, ALVIN M., 175 State Street, Springfield, Mass.
ERMENTRAUT, JOHN P., 261 E. 4th Street, New York, N. Y.
FELLOWS, H. BARTON, 2969 Indiana Avenue, Chicago Ill.
FISKE, WM. M. L., 484 Bedford Avenue, Brooklyn, N. Y.
FOSTER, WM. D., 420 W. 11th Street, Kansas City, Mo.
GUMPERT, B. B., 840 Franklin Street, Philadelphia, Pa.
HILL, ROBERT L., 564 14th Street, Oakland, Cal.

HINDS, W. H. W., Milford, N. H.
HOUGHTON, HENRY C., 7 W. 39th Street, New York, N. Y.
JAYNE, DE WITT C., Florida, N. Y.
JONES, HENRY C., Mount Vernon, N. Y.
KEEP, J. LESTER, 460 Clinton Avenue, Brooklyn, N. Y.
MCCLELLAND, J. H., Cor. 5th and Wilkins Avenue, Pittsburg, Pa.
MASON, J. R., Devall's Bluff, Ark.
MORGAN, JOHN C., Millville, N. J.
MORSE, NATHAN R., Salem, Mass.
NEGENDANK, AUGUSTUS, 1112 Washington Street, Wilmington, Del.
PAYNE, FREDERICK W., Cor. Exeter and Boylston Streets, Boston, Mass.
PEARSALL, S. J., Saratoga Springs, N. Y.
PHILLIPS, ALBERT W., Birmingham, Conn.
PRATT, LEONARD, 520 N. 2d Street, San José. Cal.
PRICE, ELIAS C., 1012 Madison Avenue, Baltimore, Md.
SANFORD, CHARLES E., Bridgeport, Conn.
SAWIN, ISAAC W., 582 Broadway, Providence, R. I.
SCALES, EDWARD P., Newton, Mass.
SHEARER, THOMAS, 345 N. Charles Street, Baltimore, Md.
THOMPSON, JOHN H., 36 E. 30th Street, New York, N. Y.
THOMPSON, VIRGIL, 32 W. 19th Street, New York, N. Y.
WESSELHOEFT, WALTER, 391 Harvard Street, Cambridge, Mass.
WHITE, J. RALSEY, 41 S. Clinton Street, Rochester, N. Y.
WILLARD, L. H., 236 Western Avenue, Allegheny, Pa.

1868.

BANCROFT, WALTON, Keokuk, Ia.
BARROWS, GEORGE S., Marion, Kan.
BAXTER, HARRIS H., 271 Prospect Street, Cleveland, O.
BELL, JAMES R., 178 Commonwealth Avenue, Boston, Mass.
BIGGAR, H. F., Cleveland, O.
BUDLONG, JOHN C., Providence, R. I.
FINCH, EDWIN W., New Rochelle, N. Y.
HEDGES, S. P., 890 Evanston Avenue, Chicago, Ill.
MACFARLAN, MALCOLM, 1805 Chestnut Street, Philadelphia, Pa.

1869.

ARCULARIUS, PHILIP E., 104 W. 44th Street, New York, N. Y.
BISHOP, HERBERT M., 436 Bradbury Building, Los Angeles, Cal.
BLOSS, J. P., 45 2d Street, Troy, N. Y.
BOWEN, GEORGE W., 232 E. Washington Street, Fort Wayne, Ind.
BOWMAN, BENJAMIN, Chambersburg, Pa.
BRADFORD, THOMAS L., 1862 Frankford Avenue, Philadelphia, Pa.
BRIRY, MILTON S., Bath, Me.
BUCK, J. D., 124 W. 7th Street, Cincinnati, O.
COBURN, EDWARD S., 91 4th Street, Troy, N. Y.
COMPTON, J. AUGUSTINE, Indianapolis, Ind.
CROSS, HIRAM R., 21 Seavern's Avenue, Jamaica Plain, Boston, Mass.

CUTLER, WM. C., 10 Everett Avenue, Chelsea, Mass.
DE DERKEY, F. F., 311 W. 3d Street, Los Angeles, Cal.
DENNIS, LABAN, 30 Central Avenue, Newark, N. J.
DUDLEY, PEMBERTON, 1405 N. 16th Street, Philadelphia, Pa.
ELLIOTT, JOSEPH B, 493 Clinton Avenue, Brooklyn, N. Y.
FLANDERS, DAVID P., Belfast, Me.
GIFFORD, GILBERT L., Hamilton, N. Y.
GRAMM, GUSTAVUS E., Ardmore, Pa.
GRAVES, S. P., Saco, Me.
HAYWARD, JOSEPH W., Taunton, Mass.
HOLT, EDWARD B., Lowell, Mass.
HUMPHREY, OTIS M., 100 E. 14th Street Minneapolis, Minn.
KINNE, THEODORE Y., Paterson, N. J.
KITTINGER, LEONARD, 724 King Street, Wilmington, Del.
MCGEORGE, WALLACE, 521 Broadway, Camden, N. J.
MIDDLETON, M. F., 423 Market Street, Camden, N. J.
MORSE, MARTIN V. B., Marblehead, Mass.
MOSSMAN, NATHAN A., 28 E. 47th Street, New York, N. Y.
SAGE, WM. H., New Haven, Conn.
SEIP, C. P., 636 Penn Avenue, Pittsburg, Pa.
SMITH, J. HEBER, 279 Dartmouth Street, Boston, Mass.
SMITH, ST. CLAIR, 25 W. 50th Street, New York, N. Y.
SPALDING, HENRY E., "The Cluny," Boston, Mass.
STREETER, JOHN W., 2001 Prairie Avenue, Chicago, Ill.
WARE, WILLIAM G., Dedham, Mass.
WOODWARD, A. M., 128 W. 13th Street, New York, N. Y.
WRIGHT, A. R., 414 Elmwood Avenue, Buffalo, N. Y.

1870.

BAGLEY, H. B., Seattle, Washington.
BEEBE, E. W., 173 Wisconsin Street, Milwaukee, Wis.
BETTS, B. FRANK, 1609 Girard Avenue, Philadelphia, Pa.
BOYER, FRANCIS W., Pottsville, Pa.
CHENEY, BENJ. H., 45 Elm Street, New Haven, Conn.
GORDON, GEORGE A., Chillicothe, Mo.
GROSVENOR, LEMUEL C., 185 Lincoln Avenue, Chicago, Ill.
JOHNSON, R. B., Ravenna, O.
KING, EDWARD H., 906 Fifteenth Street, Denver, Colo.
KIPPAX, JOHN R., 3154 Indiana Avenue, Chicago, Ill.
PENNOYER, N. A., Kenosha, Wis.
SHELDON, J. W., 402 Warren Street, Syracuse, N. Y.
VAN NORMAN, H. B., 289 Pearl Street, Cleveland, O.
WOODBURY, WILLIAM H., 22 Central Music Hall, Chicago, Ill.
WOODWARD, ALFRED W., 130 Ashland Avenue, Chicago, Ill.
WORTHINGTON, AMOS F., Fourth and Race Streets, Cincinnati, O.

1871.

ALLEN, RICHARD C., 4519 Frankford Avenue, Philadelphia, Pa.
BALDWIN, AARON, 1205 11th Street, N. W., Washington, D. C.

BINGAMAN, C. F., 922 Penn Avenue, Pittsburg, Pa.
BOWIE, ALONZO P., 87 Main Street, Uniontown, Pa.
CHASE, MAURICE J., Galesburg. Ill.
CHURCH, CHARLES A., 128 Prospect Street, Passaic, N. J.
DRAKE, OLIN M., 70 Huntingdon Avenue, Boston, Mass.
EDMUNDSON, WALTER F., 375 5th Avenue, Pittsburg. Pa.
FAGER, CHARLES B., 120 Walnut Street, Harrisburg, Pa.
GREENLEAF, JOHN T., Owego, N. Y.
HIGBEE, ALBERT E., Masonic Temple, Minneapolis, Minn.
HIGBEE, CHESTER G., cor. 9th and Roberts Streets, St. Paul, Minn.
KNEASS, NICHOLAS W., 607 N. Charles Street, Baltimore, Md.
KNERR, CALVIN B., 1137 Spruce Street, Philadelphia, Pa.
LEWIS, HENRY M., 10 S. Portland Avenue, Brooklyn, N. Y.
MARTIN, CONSTANTINE H., Allentown, Pa.
MERCER, ROBERT P., 223 W. 3d St., Chester, Pa.
MIDDLETON, CALEB S., 1523 Girard Avenue, Philadelphia, Pa.
MITCHELL, JOHN J., Newburgh, N. Y.
SARTAIN, HARRIET J., 212 W. Logan Square, Philadelphia, Pa.
SHIVERS, BOWMAN H., Haddonfield, N. J.
SOUTHWICK, AUGUSTUS B., 165 W. Dominic Street, Rome, N. Y.
STREETS, JACOB G., Bridgeton, N. J.

Alphabetical List of Members.

The figures placed before the names indicate the date of membership. Names in SMALL CAPITALS are "Senior Members."

☞ Members are requested to inform the General Secretary of any change in their addresses. Those residing in a city are requested to furnish him with their *street* addresses.

Article V., Section 4, of the By-Laws.

Members neglecting the payment of dues for three years, after proper notification from the Treasurer, shall have their names dropped from the roll of membership.

1894. Abbott, Charles Sewell, 130 Huntington Avenue, Boston, Mass.
1896. Ackerman, James F., 905 Grand Avenue, Asbury Park, N. J.
1886. Adams, C. B., 175 Grand Avenue, New Haven, Conn.
1896. Adams, Charles, Central Music Hall, Chicago, Ill.
1895. Adams, G. Francis, Westboro, Mass.
1887. Adams, George Smith, Westborough, Mass.
1895. Adams, H. Alden, 21 W. Ohio Street, Indianapolis, Ind.
1876. Adams, Reuben A., 31 North Fitzhugh Street, Rochester, N. Y.
1892. Aiken, John Gayle, 1102 St. Charles Avenue, New Orleans, La.
1867. ALBERTSON, J. A., 119 Powell Street, San Francisco, Cal.
1888. Aldrich, Henry C., 313 Medical Block, Minneapolis, Minn.
1894. Alexander, Ernest L., 1022 N. 21th Street, Omaha, Neb.
1894. Alexander, Eva Blanche.
1894. Alexander, J. Lloyd.
1893. Allan, Arthur Gerrish, 8 W. 49th Street, New York, N. Y.
1895. Allard, Frank Ellsworth, 39 Hancock Street, Boston, Mass.
1881. Allen, Albion H., New London, Conn.
1880. Allen, Charles, 1320 G Street, N. W., Washington, D. C.
1873. Allen, George D., Portland, Mich.
1872. Allen, Henry C., 5142 Washington Avenue, Chicago, Ill.
1887. Allen, Lamson, Worcester, Mass.
1891. Allen, Paul, 10 E. 36th Street, New York, N. Y.
1871. ALLEN, RICHARD C., 4519 Frankford Avenue, Philadelphia, Pa.
1892. Allen, Sara J., Charlotte, Mich.
1866. ALLEN, TIMOTHY FIELD, 10 E. 36th Street, New York, N. Y.
1893. Allen, W. Carey, Colorado Springs, Colo.
1895. Allison, George Freeman, Warren Avenue, East Providence, R. I.
1894. Ames, Charles S., Ada, O.
1893. Anderson, G. Hamlin, Seneca, Kan.
1896. Anderson, Jeremiah N., 5 College Street, Toronto, Ont.
1893. Anderson, John Wylie, 16 and 17 Steele Block, Denver, Colo.

1890. Andrews, Sarah W., 325 Bowen Avenue, Chicago, Ill.
1892. Andrews, William R., Rockville, Md.
1853. ANGELL, HENRY C., 16 Beacon Street, Boston, Mass.
1891. Applegate, G. T., 25 Livingston Avenue, New Brunswick, N. J.
1869. ARCULARIUS, PHILIP E., 104 W. 44th Street, New York, N. Y.
1892. Armstrong, Wilber Price, Springfield, Ill.
1882. Arndt, Hugo R., 951 6th Street, San Diego, Cal.
1890. Arnulphy, Bernard S., 5223 Jefferson Avenue, Hyde Park, Chicago, Ill.
1891. Arschagouni, John, 743 Lexington, Avenue, New York, N. Y.
1891. Artz, Jerome L., Cramer Hill, N. J.
1894. Austin, Edson C., Norwood, N. Y.
1894. Avery, Aaron B., Pontiac, Mich.
1894. Ayres, Emma F. Macomber, 69 Caroline Street, Saratoga, N. Y.
1893. Ayres, James N., 534 S. Burdick Street, Kalamazoo, Mich.

1891. Babbitt, Zeno B., 810 11th Street, N. W., Washington, D. C.
1885. Babcock, D. A., Fall River, Mass.
1892. Babcock, Francis Lester, 15 Walnut Street, Dedham, Mass.
1896. Babington, John, Corunna, Mich.
1874. Baethig, Henry, 350 Pennsylvania Street, Buffalo, N. Y.
1870. BAGLEY, H. B., Seattle, Washington.
1893. Badger, Sophia F., 1363 Union Avenue, St. Louis, Mo.
1892. Baier, George Frederick, Norwood, Pa.
1893. Bailey, Alfred Goodrich.
1887. Bailey, Alfred W., 1809 Pacific Avenue, Atlantic City, N. J.
1888. Bailey, Benjamin F., Lincoln, Neb.
1889. Bailey, E. Stillman, 3034 Michigan Avenue, Chicago, Ill.
1893. Bailey, William M., 29 Miami Avenue, Detroit, Mich.
1891. Baker, Frank W., 50 W. Mulberry Street, Kokomo, Ind.
1894. Baker, Jennie Van Holland, 512 Bedford Avenue, Brooklyn, N. Y.
1896. Baldinger, Arthur F., 670 Euclid Avenue, Cleveland, O.
1871. BALDWIN, AARON, 1205 11th Street, N. W., Washington, D. C.
1892. Baldwin, Henry D., Elyria, O.
1857. BALDWIN, JARED G., 8 E. 41st Street, New York, N. Y.
1892. Ballard, Asa N., 2006 2d Avenue, Birmingham, Ala.
1883. Ballard, Laura A. S., 610 Hyde Street, San Francisco, Cal.
1892. Balyeat, Edmond A., 122 W. Main Street, Kalamazoo, Mich.
1868. BANCROFT, WALTON, Keokuk, Iowa.
1891. Banker, Pierre A., 1156 E. Jersey Street, Elizabeth, N. J.
1888. Barber, Oscar M., Mystic Bridge, Conn.
1881. Barker, Clarence F., Ellis Avenue and Oakwood Boulevard, Chicago, Ill.
1891. Barnard, Charles A., Centerdale, R. I.
1891. Barnard, James S., 2111 St. Paul Street, Baltimore, Md.
1881. Barnett, Amelia, 261 W. 23d Street, New York, N. Y.
1894. Barnhill, Tobias G., 203 S. Main Street, Findlay, O.
1892. Barrett, James Willis, Osage, Iowa.
1868. BARROWS, GEORGE S., Marion, Kan.
1892. Barstow, Benjamin Parker, Kingston, Mass.

1896. Bartholomew, Daniel D., Holly, Mich.
1886. Bartlett, Clarence, 1506 Arch Street, Philadelphia, Pa.
1892. Barton, J. Marcus, Worcester, Mass.
1896. Barton, William R., 216 Washington Street, Ypsilanti, Mich.
1889. Bascom, Henry M., 727 Columbus Street, Ottawa, Ill.
1893. Bassett, Charles F., 20 Aldine Square, Chicago, Ill.
1880. Bassett, John S., 11 W. 31st Street, New York, N. Y.
1892. Batchelder, Frederick P., 232 Massachusetts Avenue, Boston, Mass.
1892. Batchelder, Henry F., 18 Locust Street, Danvers, Mass.
1868. Baxter, Harris H., 271 Prospect Street, Cleveland, O.
1893. Bayless, Herman G., 431 4th Avenue, Louisville. Ky.
1891. Bayley, Weston D., 1434 Poplar Street, Philadelphia, Pa.
1867. Baylies, B. L. R., 418 Putnam Avenue, Brooklyn, N. Y.
1896. Beaman, Charles P., Ithaca, N. Y.
1894. Beaumont, John F., 100 State Street, Chicago, Ill.
1889. Becker, Frederick, Clermont, Iowa.
1898. Becker, Frederick J., Postville, Ia.
1865. Beckwith, D. H., 528 Prospect Street, Cleveland, O.
1857. Beckwith, Seth R., East Orange, N. J.
1877. Beebe, Clarence E., 23 W. 33d Street, New York, N. Y.
1870. Beebe, E. W., 173 Wisconsin Street, Milwaukee, Wis.
1876. Beebe, Henry E., Sidney, O.
1891. Beebe, William R., Bridgeport, Conn.
1892. Beldin, Charles K., 7 Clinton Avenue, Jamaica, N. Y.
1868. Bell, James B., 178 Commonwealth Avenue, Boston, Mass.
1867. Bell, James S., Rock Valley, Ia.
1877. Bellows, Howard P., Cor. Boylston and Berkeley Streets, Boston, Mass.
1872. Bender, Prosper, Exeter Chambers, Boston, Mass.
1881. Bennett, James A., 4 Irving Place, New York, N. Y.
1889. Bennett, William Henry, Fitchburg, Mass.
1888. Bennitt, Francis M., Chicopee, Mass.
1846. Berens, Joseph, 1500 Green Street, Philadelphia.
1872. Berghaus, Alex., 138 E. 65th Street, New York, N. Y.
1892. Bergman, Nils, Dwight, Ill.
1893. Bernard, Charles C., 954 N. Halstead Street, Chicago, Ill.
1893. Besemer, Martin, 6 W. State St., Ithaca, N. Y.
1890. Best, George R., Englewood, N. J.
1870. Betts, B. Frank, 1609 Girard Avenue, Philadelphia, Pa.
1874. Biegler, Joseph A., 58 S. Clinton Street, Rochester, N. Y.
1887. Bier, Peter A., 4200 Butler Street, Pittsburg, Pa.
1868. Biggar, H. F., Cleveland, O.
1876. Bigler, William H., 1524 Arch Street, Philadelphia, Pa.
1871. Bingaman, C. F., 922 Penn Avenue, Pittsburg, Pa.
1892. Bingham, Russell, 62 Day Street, Fitchburg, Mass.
1895. Birch, Charles E., White Plains, N. Y.
1881. Birdsall, Stephen T., Glens Falls, N. Y.
1895. Birdsall, Thomas P., Paterson, N. Y.
1869. Bishop, Herbert M., 436 Bradbury Building, Los Angeles, Cal.

1891. Bishop, William H., 119 E. 47th Street, New York, N. Y.
1853. Bissel, Arthur F., 157 Maiden Lane, New York, N. Y.
1893. Bissell, Elmer Jefferson, 75 S. Fitzhugh Street, Rochester, N. Y.
1891. Bittinger, Frank D., 23 W. 4th Street, Dayton, O.
1893. Blackman, George Edwin, Vernon, Texas.
1891. Blackman, Orville B., Dixon, Ill.
1893. Blackwood, Alexander L., 9151 Commercial Ave., Chicago, Ill.
1894. Blair, William Wightmann, 406 Penn Avenue, Pittsburg, Pa.
1896. Blanke, Theodore F., Great Bend, Kan.
1893. Bliem, Milton J., 313 E. Houston Street, San Antonio, Texas.
1887. Blodgett, S. H., 1131 Massachusetts Avenue, Cambridge, Mass.
1869. Bloss, J. P., 45 Second Street, Troy, N. Y.
1894. Blouke, Milton Baker. 1222 W. Washington Street, Chicago, Ill.
1894. Blunt, Arthur W., 323 5th Avenue, Clinton, Ia.
1893. Boardman, E. W., 115 Central Avenue, Parsons, Kan.
1844. Boardman, Joseph C., 213 Butler Street, Trenton, N. J.
1895. Boericke, Felix A., 1011 Arch Street, Philadelphia, Pa.
1865. Boericke, F. E., Hammondsport, N. Y.
1883. Boericke, Wm., 1812 Washington Street, San Francisco, Cal.
1892. Boileau, John D., 804 Lehigh Avenue, Philadelphia, Pa.
1874. Bond, Mary E., 122 Lexington Avenue, New York, N. Y.
1891. Boocock, Robert, 965 Flatbush Avenue, Brooklyn, N. Y.
1869. Boothby, Alonzo, 1061 Beacon Street, Brookline, Mass.
1890. Bothfeld, James F., 455 Centre Street, Newton, Mass.
1869. Bowen, George W., 232 E. Washington Street, Fort Wayne, Ind.
1893. Bowerman, Martha A., 3948 Cottage Grove Ave., Chicago, Ill.
1871. Bowie, Alonzo P., 87 Main Street, Uniontown, Pa.
1869. Bowman, Benjamin, Chambersburg, Pa.
1889. Bowman, Frederick C., 203 2d Avenue, W. Duluth, Minn.
1893. Bowman, Isaac N., Upper Sandusky, O.
1891. Boyd, J. S., New Brighton, Pa.
1870. Boyer, Francis W., Pottsville, Pa.
1895. Boyd, Herbert D., 370 Columbus Avenue, Boston, Mass.
1874. Boynton, Frank H., 36 W. 50th Street, New York, N. Y.
1894. Brace, Charles C., 1430 Stout St., Denver, Colo.
1860. Bradford, F. Standish, 36 Maple Avenue, Morristown, N. J.
1869. Bradford, Thomas L., 1862 Frankford Avenue, Philadelphia, Pa.
1882. Bradley, Benjamin A., 214 Wallace Avenue, Avondale, Cincinnati, O.
1891. Brannin, John W., Mount Holly, N. J.
1895. Branson, J. H., Homœopathic Hospital, Washington, D. C.
1891. Branson, Mary, 1719 Arch Street, Philadelphia, Pa.
1877. Branstrup, William T., 222 W. 6th Street, Topeka, Kan.
1895. Bray, Amanda C., 4 Wellington Street, Worcester, Mass.
1889. Bray, Nicholas, 1140 Main Street, Dubuque, Ia.
1891. Brewster, Cora B., 1027 Madison Avenue, Baltimore, Md.
1891. Brewster, Flora A., 1221 Madison Avenue, Baltimore, Md.
1896. Brewster, Frederick D., 330 Washington Avenue, Scranton, Pa.

1873. Breyfogle, W. L., New Albany, Ind.
1890. Brickley, Laura C., Harrison, O.
1893. Briggs, Joseph Emmons, 240 Massachusetts Avenue, Boston, Mass.
1889. Briggs, Warren S., St. Paul, Minn.
1893. Brigham, Homer C., 27 Morris Avenue, Grand Rapids, Mich.
1869. BRIRY, MILTON S., Bath, Me.
1892. Brooks, Caroline Frances, Independence, Ia.
1894. Brooks, Ida Josephine, 219 E. 10th Street, Little Rock, Ark.
1893. Brooks, William F., 148 Monroe Street, Lowell, Mich.
1876. Brown, Asa W., 27 Burnett Street, Providence, R. I.
1891. Brown, Christian H., 1824 Diamond Street, Philadelphia, Pa.
1890. Brown, Dagmar M., Waupaca, Wis.
1867. BROWN, EDWARD V., North Tarrytown, N. Y.
1893. Brown, Eugene A., 121 E. Washington Avenue, Madison, Wis.
1892. Brown, Lucy Henrietta Alice, 274 Broad Street, Providence, R. I.
1891. Brown, Manuel J., Salina, Kan.
1891. Brown, M. Belle, 135 W. 34th Street, New York, N. Y.
1896. Brown, Plumb, Jr., 503 State Street, Springfield, Mass.
1892. Brown, William K., 1311 N. Broad Street, Philadelphia, Pa.
1893. Bruce, Ida F., Irvington, N. J.
1888. Bruce, Orpha D. B., 1302 Florida Avenue, Tampa, Fla.
1894. Bryan, Joseph Harter, 221 Asbury Avenue, Asbury Park, N. J.
1895. Bryan, Joseph Temple, Shelbyville, Ky.
1895. Bryant, Edgar Reeve, 522 Sutter Street, San Francisco, Cal.
1894. Bryant, Wm. Cullen, 64 Green Avenue, Brooklyn, N. Y.
1869. BUCK, J. D., 124 W. 7th Street, Cincinnati, O.
1891. Buck, Michael J., 1222 Twelfth Avenue, Altoona, Pa.
1868. BUDLONG, JOHN C., Providence, R. I.
1873. Buffum, J. H., 34 Washington Street, Chicago, Ill.
1892. Bull, William H. H., Atlantic City, N. J.
1887. Bullard, J. Arthur, Wilkesbarre, Pa.
1895. Burck, Lewis A., 17 E. 2d Street, Frederick, Md.
1854. BURGHER, JOHN C., 960 Penn Avenue, Pittsburg, Pa.
1891. Burling, J., Summit, N. J.
1889. Burnham, Norman G., Denver, Colo.
1889. Burns, Judson D., Grundy Centre, Ia.
1893. Burr, William Alton, 2010 Welton Street, Denver, Colo.
1886. Burritt, Alice, 1129 Fourteenth Street, Washington, D. C.
1883. Burroughs, Amelia, 1617 Dodge Street, Omaha, Neb.
1893. Burt, William H., 714 W. Monroe Street, Chicago, Ill.
1875. Butler, Clarence W., 35 Fullerton Avenue, S., Montclair, N. J.
1873. Butler, W. M., 507 Clinton Avenue, Brooklyn, N. Y.

1892. Cahill, Eliza B., N. E. Conservatory of Music, Boston, Mass.
1895. Calderwood, Samuel Herbert, 2512 Washington Street, Boston, Mass.
1892. Cameron, Malcolm, 1027 22d Street, Washington, D. C.
1894. Cameron, Watts.
1894. Campbell, Eugene, Spring and 2d Streets, Los Angeles, Cal.

1876. Campbell, James A., 1729 Washington Avenue, St. Louis, Mo.
1874. Campbell, Merritt B., San Bernardino, Cal.
1895. Campbell, Robert Alexander, Pasadena, Cal.
1886. Candee, J. Willis, 402 Warren Street, Syracuse, N. Y.
1873. Canfield, Corresta T., 269 Lincoln Avenue, Chicago, Ill.
1891. Canfield, Martha A., 24 Streator Street, Cleveland, O.
1894. Canney, Frederick G., 606 Sutter Street, San Francisco, Cal.
1890. Capron, C. Gray, 236 Genesee Street, Utica, N. Y.
1896. Carleton, Bukk G., 75 W. 50th Street, New York, N. Y.
1895. Carleton, Francis Boyd, Providence, R. I.
1889. Carlson Oscar W., 425 Milwaukee Street, Milwaukee, Wis.
1883. Carmichael, John H., 41 Maple Street, Springfield, Mass.
1891. Carmichael, Thomas H., 5530 Main Street, Germantown, Philadelphia, Pa.
1896. Caron, George G., 30 Henry Street, Detroit, Mich.
1892. Carpenter, Willard B., 657 N. High Street, Columbus, O.
1891. Carr, Ada, Vreeland Avenue, Paterson, N. J.
1882. Carvill, Alphonso H., Somerville, Mass.
1881. Case, Erastus E., 109 Ann Street, Hartford, Conn.
1895. Chace, Nathaniel Ray, 89 Touro Street, Newport, R. I.
1893. Chaffee, Jerome G., Kentland, Ind.
1891. Chalmers, Robert, 47 Pleasant Street, Woburn, Mass.
1889. Chamberlin, Myron H., Monrovia, Cal.
1895. Champlin, Henry William, 111 Main Street, Towanda, Pa.
1891. Chandlee, Henry, 1019 Linden Avenue, Baltimore, Md.
1891. Chapin, Edward, 21 Schermerhorn Street, Brooklyn, N. Y.
1890. Chapman, Edward E. K., Defiance, O.
1875. Chapman, Millie J., 804 Penn Avenue, Pittsburg, Pa.
1876. Chase, Herbert A., 950 Massachusetts Avenue, Cambridgeport, Mass.
1847. Chase, Hiram L., 924 Massachusetts Avenue, Cambridgeport, Mass.
1895. Chase, Joseph, Jr., East Weymouth, Mass.
1871. Chase, Maurice J., Galesburg, Il.
1894. Chase Theodore Livingstone, 1687 N. 54th Street, Philadelphia, Pa.
1870. Cheney, Benj. H., 45 Elm Street, New Haven, Conn.
1895. Childs, Helen S., 454 Centre Street, Jamaica Plain, Boston, Mass.
1890. Chislett, Howard Roy, 3034 Michigan Avenue, Chicago, Ill.
1891. Choate, Rufus, 3267 O Street, Washington, D. C.
1891. Church, Adaline B., 102 Huntingdon Avenue, Boston, Mass.
1871. Church, Charles A., 128 Prospect Street, Passaic, N. J.
1896. Church, Eloise I., 41 W. 94th Street, New York, N. Y.
1882. Church, Thomas T., 90 E. Main Street, Salem, O.
1891. Churchill, Ann Ervilla, Monroe, Wis.
1881. Clapp, James Wilkinson, cor. St. Paul and Francis Sts., Brookline, Mass.
1896. Clapp, Katherine B., 6222 Woodlawn Avenue, Chicago, Ill.
1886. Clark, Byron G., 162 W. 122d Street, New York, N. Y.
1891. Clark, Charles W., Winnipeg, Manitoba.
1891. Clark, Edwin J., Longmont, Colo.
1891. Clark, Ernest A., Ann Arbor, Mich.
1896. Clark, George E., 203 S. Main Street, Stillwater, Minn.

1887. Clark, Lyman A., Cambridge, N. Y.
1893. Clark, Whitman E., Three Rivers, Mich.
1894. Clarke, Elmer A., 595 S. Spring St., Los Angeles, Cal.
1894. Clarke, Harvey L., Fairbury, Neb.
1888. Clarke, Henry L., Wellesley Hills, Mass.
1895. Clarke, Mortimer Hall, 221 Auburn Street, Auburndale, Mass.
1887. Claypool, Albert, Toledo, O.
1893. Clement, Webster John, Berlin, Wis.
1893. Clokey, Allison A., 2d and Chestnut Streets, Louisville, Ky.
1888. Closson, James H., 53 W. Chelten Avenue, Germantown, Philadelphia, Pa.
1890. Cobb, Joseph P., 3156 Indiana Avenue, Chicago, Ill.
1869. COBURN, EDWARD S., 91 4th Street, Troy, N. Y.
1893. Cocke, James R., 21 Marlborough Street, Boston, Mass.
1895. Coffin, John Lambert, 229 Berkeley Street, Boston, Mass.
1866. COGSWELL, C. H., 65 2d Avenue, Cedar Rapids, Ia.
1893. Colburn, Edgar L., Fremont, Neb.
1886. Colby, Edwin A., Gardner, Mass.
1890. Colby, Edward P., cor. Berkeley and Boylston Streets, Boston, Mass.
1890. Cole, Beder A., West Lima, Wis.
1883. Cole, Directus De Forest, Albion, N. Y.
1883. Cole, Ezra Z., 1516 Mount Royal Avenue, Baltimore, Md.
1896. Cole, Sarah A., Port Austin, Mich.
1895. Coleman, E. B., Centre Street, Nantucket, Mass.
1892. Colgrove, Charles H., Willimantic, Conn.
1892. Colley, Robert K., Sudlersville, Md.
1896 Collins, Newton M., 43 East Avenue, Rochester, N. Y.
1895. Colvin, Harvey E., 150 Cherry Street, Burlington, Vt.
1894. Colwell, Charles Estabrook, 23 S. Lake Street, Aurora, Ill.
1893. Combs, James T., Campbellsburg, Ky.
1869. COMPTON, J. AUGUSTINE, Indianapolis, Ind.
1866. COMSTOCK, T. G., 3401 Washington Avenue, St. Louis, Mo.
1876. Conant, Thomas, Gloucester, Mass.
1892. Condon, Eva G., St. Louis, Mo.
1894. Conklin, Francis C. Donovan, New Brighton, N. Y.
1895. Connett, George Cramer, 45 Washington Street, Morristown, N. J.
1881. Cook, Joseph T., 636 Delaware Avenue, Buffalo, N. Y.
1892. Cooke, Mary A., 2113 N. 18th Street, Philadelphia, Pa.
1886. Cooke, Persifor Marsden, 1290 Race Street, Denver, Colo.
1891. Coolidge, John W., Scranton, Pa.
1895. Coon, George S., 617 4th Street, Louisville, Ky.
1874. Coon, Henry C., Alfred Centre, N. Y.
1891. Cooper, Isaac, Trenton, N. J.
1891. Cooper, Peter, 918 West Street, Wilmington, Del.
1866. COOPER, J. F., 105 Arch Street, Allegheny City, Pa.
1894. Cooper, William Henry, Oakmont, Pa.
1892. Copeland, Roy S., 46 Catherine Street, Ann Arbor, Mich.
1874. Corbin, John L., 245 Main Street, Athens, Pa.
1888. Cornell, Albert B., Kalamazoo, Mich.

1894. Cort, Lottie A., 89 Division Avenue, Brooklyn, N. Y.
1892. Costain, Thomas E., Pratt Sanitarium, Chicago, Ill.
1877. Couch, Asa S., Fredonia, N. Y.
1876. Couch, Louis B., Nyack, N. Y.
1894. Couden, William Chase, California Building, Denver, Colo.
1890. Coutant, George F., La Salle, Ill.
1891. Covey, Calvin Edson, Port Huron, Mich.
1892. Cowell, Joseph H., Saginaw, Mich.
1875. Cowperthwaite, Allen C., 31 Washington Street, Chicago, Ill.
1894. Cox, Edward Gilbert, 109 State Street, Albany, N. Y.
1894. Cox, Frederick Joseph, 109 State Street, Albany, N. Y.
1895. Cox, George A., 80 S. Swan Street, Albany, N. Y.
1878. Cranch, Edward, Erie, Pa.
1891. Crandall, Willis Augustine.
1874. Crank, C. D., 106 Auburn Avenue, Cincinnati, O.
1883. Crawford, Alex. K., 100 State Street, Chicago, Ill.
1893. Crawford, Joanna D., 3016 Bloomington Avenue, Minneapolis, Minn.
1892. Crawford, Katherine M., 131 N. Main Street, Chambersburg, Pa.
1896. Crisand, Carl, 2 Charlotte Street, Worcester, Mass.
1893. Crismore, J. M., Helena, O.
1895. Crocker, Harry Clinton, 154 Orms Street, Providence, R. I.
1885. Crosby, George W., 716 Atlantic Avenue, Atlantic City, N. J.
1869. Cross, Hiram B., 21 Seavern's Avenue, Jamaica Plain, Boston, Mass.
1893. Crosthwait, Scott W., 214 Hardee Street, Nashville, Tenn.
1891. Crowther, Isaac, Chester, Pa.
1896. Crum, J. D., 314 N. Ball Street, Owosso, Mich.
1894. Crumrine, Charles G., Shirley Block, Detroit, Mich.
1895. Crump, Walter Gray, Flower Hospital, New York, N. Y.
1893. Crutcher, Howard, 103 State Street, Chicago, Ill.
1895. Culin, William D., 4028 Parrish Street, Philadelphia, Pa.
1886. Culver, Mrs. Jane Kendrick, 13 Arlington Street, Boston, Mass.
1881. Cummings, M. Louisa, 6 Somerset Street, Boston, Mass.
1894. Cunningham, Eva Alice, 817 New Hampshire Street, Lawrence, Kan.
1892. Curran, Edwin J., Oil City, Pa.
1867. Currier, C. B., 921½ Geary Street, San Francisco, Cal.
1894. Cushman, Mary Floyd, Main Street, Castina, Me.
1867. Cushing, Alvin M., 175 State Street, Springfield, Mass.
1889. Custis, George W. N., 112 E. Capitol Street, Washington, D. C.
1879. Custis, J. B. G., 110 E. Capitol Street, Washington, D. C.
1892. Custis, Marvin A., 634 E. Capitol Street, Washington, D. C.
1869. Cutler, William C., 10 Everett Avenue, Chelsea, Mass.
1893. Cutler, William Pond, 1227 Michigan Avenue, Kansas City, Mo.

1891. Daily, John C., Fort Smith, Ark.
1887. Dake, Addie B. (Crowley), 117 E. Jefferson Street, Syracuse, N. Y.
1866. Dake, B. F., 815 Penn Avenue, Pittsburg, Pa.
1881. Dake, Charles, Hot Springs, Ark.
1887. Dake, Frank B., Hot Springs, Ark.

1877. Dake, Walter M., 218 N. Vine Street, Nashville, Tenn.
1872. Dake, William C., 218 N. Vine Street, Nashville, Tenn.
1895. Damon, Newcomb Lincoln, 405 Washington Street, Dorchester, Mass.
1879. Danforth, L. L., 35 W. 51st Street, New York, N. Y.
1892. Darby, Edward A., Cañon City, Col.
1892. Darby, Margaret G., Cañon City, Col.
1875. Davis, Fielding L., Evansville, Ind.
1894. Davis, Franklin S., 109 Perry Street, Peoria, Ill.
1893. Davis, George Eugene, 520 Sutter Street, San Francisco, Cal.
1878. Davis, John E. L., 4 E. 63d Street, New York, N. Y.
1892. Davis, John Jefferson, Racine, Wis.
1894. Davison, William M. W., 1343 W. Lake Street, Chicago, Ill.
1892. Dawson, John G., Matteawan, N. Y.
1892. Day, George F., Martinsburg, W. Va.
1891. Day, Leonidas A. L., 103 State Street, Chicago, Ill.
1887. Deady, Charles, 110 W. 48th Street, New York, N. Y.
1881. Dean, Edward W., 52 Ninth Street, Pittsburg, Pa.
1893. Dean, George A., 1103 Main Street, Kansas City, Mo.
1891. Dearborn, Henry M., 146 W. 57th Street, New York, N. Y.
1893. De Baun, Edwin, 142 Main Avenue, Passaic, N. J.
1869. De Derkey, F. F., 311 W. 3d Street, Los Angeles, Cal.
1888. Defendorf, John J., Ionia, Mich.
1894. Delamater, Nicholas B., 31 Washington Street, Chicago, Ill.
1892. Delap, S. C., 1214 Main Street, Kansas City, Mo.
1892. Dell, Lilian A., Kenosha, Wis.
1881. Demarest, John H., 59 W. 126th Street, New York, N. Y.
1895. Dennett, George William, South Framingham, Mass.
1869. Dennis, Laban, 30 Central Avenue, Newark, N. J.
1890. Dennison, Ira Warren, 1326 L Street N. W., Washington, D. C.
1891. DePuy, Richard G., Jamestown, N. Dak.
1875. Deschere, Martin, 334 W. 58th Street, New York, N. Y.
1858. Detwiller, John J., Easton, Pa.
1889. Dewey, Willis A., Ann Arbor, Mich.
1890. Diederich, Peter, 518 Minnesota Avenue, Kansas City, Kan.
1889. Diessner, Henry Richard, Waconia, Minn.
1893. Dillingham, Thomas Manly, 8 W. 49th Street, New York, N. Y.
1883. Dillow, George M., "The Rutland," 57th Street and Broadway, New York, N. Y.
1887. Dills, Malcolm, Carlisle, Ky.
1878. Dinsmore, Samuel W. S., Sharpsburg, Pa.
1896. Dixey, Mabel G., 401 Chrogan Street, Fremont, O.
1887. Docking, Thomas, 164 Boston Avenue, San Diego, Cal.
1892. Dodd, Harry Lee, Chestertown, Md.
1895. Dodge, Charles E., 913 Elm Street, Manchester, N. H.
1894. Dodge, Horace Tennent, Denver, Colo.
1891. Dolan, A. Stanley, San Bernardino, Cal.
1872. Doughty, Francis E., 512 Madison Ave, New York, N. Y.
1895. Dowe, Frank LeC., S. Boulevard and Briggs Avenue, New York, N. Y.

1887. Dowling, John W., 8 W. 45th Street, New York, N. Y.
1882. Downey, F. Edgar, Clinton, Ill.
1893. Downs, James N., 724 Columbus Street, Ottawa, Ill.
1895. Drake, Franklin Joseph, Webster City, Ia.
1895. Drake, Joseph H., 706 W. 4th Street, Des Moines, Ia.
1871. DRAKE, OLIN M., 70 Huntington Avenue, Boston, Mass.
1895. Dreyer, Francis Helmuth, Webster Avenue, New York, N. Y.
1869. DUDLEY, PEMBERTON, 1405 N. 16th Street, Philadelphia, Pa.
1892. Dudley, Perry Hall, 1405 N. 16th Street, Philadelphia, Pa.
1892. Duffield, Alfred Manley, 307 Clinton Street, Huntsville, Ala.
1884. Du Four, William Morgan, Williamsport, Pa.
1866. DUNCAN, T. C., 100 State Street, Chicago, Ill.
1893. Duncan, Sarah B., 104 29th Street, Fayette, Ia.
1894. Dunlap, Frank, Osawatomie, Kansas.
1895. Dunlevy, Rita, 328 W. 57th Street, New York, N. Y.
1891. Dunn, Charles N., 200 Broadway, Centralia, Ill.
1895. Dunn, Helen S., Biray and Poplar Streets, Centralia, Ill.
1895. Dunn, Jennie Sophia, 358 Meridian Street, East Boston, Mass.
1890. Dunn, Wesley A., 31 Washington Street, Chicago, Ill.
1891. Dwinell, Byron L., Taunton, Mass.

1891. Eaton, Charles Woodhull, 420 Walnut Street, Des Moines, Ia.
1893. Eaton, Cora E. Smith, Minneapolis, Minn.
1877. Eaton, J. Albro, 498 Hancock Street, Brooklyn, N. Y.
1895. Eaton, Samuel Lewis, Newton Highlands, Mass.
1894. Ebersole, Joseph R., Monmouth, Ill.
1876. Eckel, John N., 324 Geary Street, San Francisco, Cal.
1893. Edgerton, Mark, 1106 Main Street, Kansas City, Mo.
1871. EDMUNDSON, WALTER F., 375 Fifth Avenue, Pittsburg, Pa.
1872. Edson, Susan A., 1308 I Street, N. W., Washington, D. C
1895. Edwards, Franklin W., 26 Hamilton Street, Southbridge, Mass.
1894. Elliott, Charles S., 1103 Main Street, Kansas City, Mo.
1895. Elliott, Frederick William, 107 Warren Street, Boston, Mass.
1896. Elliott, Frank, 1008 Main Street, Kansas City, Mo.
1869. ELLIOTT, JOSEPH B., 493 Clinton Avenue, Brooklyn, N. Y.
1892. Ely, Charles F., 34 Washington Street, Chicago, Ill.
1895. Emerson, Frederick Lincoln, 118 Hancock Street, Dorchester, Mass.
1891. Emerson, Nathaniel Waldo, 601 Boylston Street, Boston, Mass.
1895. Emery, John Taylor Gilman, 27 Main Street, Waterborough, Me.
1895. Emery, Winfred Newell, 749 Main Street, Waltham, Mass.
1867. ERMENTRAUT, JOHN P., 261 E. 4th Street, New York, N. Y.
1894. Enos, Charles W., Denver, Colo.
1894. Erni, G. Oscar, 214 E. Spring Street, New Albany, Ind.
1894. Esmond, Henry B., 14 Market Square, Houlton, Me.
1893. Estabrooke, William Wilmot, Jerseyville, Illinois.
1892. Estep, Charles S., Lexington, Ill.
1874. Evans, Albert J., Fredonia, N. Y.
1893. Evans, Charles Horace, 730 Warren Avenue, Chicago, Ill.

1892. Evans, Henry J., Fayette and Carey Streets, Baltimore, Md.
1875. Everett, Ambrose S.
1892. Everett, Frederick, 402 Centre Street, Chicago, Ill.
1891. Everhart, Oliver T., Hanover, Pa.

1893. Fackler, Joshua M., Plymouth, O.
1871. FAGER, CHARLES B., 120 Walnut Street, Harrisburg, Pa.
1882. Fahnestock, Joseph C., Piqua, O.
1887. Faust, Lewis, Schenectady, N. Y.
1892. Fawcett, John M., 1116 Market Street, Wheeling, W. Va.
1894. Fay, Russell P., 165 Warburton Avenue, Yonkers, N. Y.
1890. Fellows, C. Gurnee, 70 State Street, Chicago, Ill.
1867. FELLOWS, H. BARTON, 2969 Indiana Avenue, Chicago, Ill.
1892. Fellows, William Edwin, 134 Hammond Street, Bangor, Me.
1896. Ferwald, Herbert E., Cahosset, Mass.
1868. FINCH, EDWIN W., Center Avenue and Prospect Street, New Rochelle, N.Y.
1855. FINCKE, BERNHARDT, 122 Livingston Street, Brooklyn, N. Y.
1888. Finney, Everett B., 1229 L Street, Lincoln, Neb.
1893. Fischback, F. W., Newport, Ky.
1873. Fisher, A. Leroy, 315 Pigeon Street, Elkhart, Ind.
1893. Fisher, Anna M., Le Seuer, Minn.
1873. Fisher, Charles E., 31 Washington Street, Chicago, Ill.
1895. Fiske, Edwin Rodney, 484 Bedford Avenue, Brooklyn, N. Y.
1867. FISKE, WILLIAM M. L., 484 Bedford Avenue, Brooklyn, N. Y.
1895. Flagg, Robert N., 118 S. Broadway, Yonkers, N. Y.
1869. FLANDERS, DAVID P., Belfast, Me.
1879. Flanders, Martha J., Lynn, Mass.
1891. Fleming, John R., 1903 Pacific Avenue, Atlantic City, N. J.
1892. Flinn, Irvine M., 404 W. 8th Street, Wilmington, Del.
1891. Flinn, Lewis W., 510 W. 9th Street, Wilmington, Del.
1881. Flint, Almena J. Baker, 102 Huntington Avenue, Boston, Mass.
1896. Foote, Dellizon A., 200 Paxton Block, Omaha, Neb.
1895. Forbes, Charles Holt, 429 School Street, Athol, Mass.
1874. Forbes, George F., 42 Williams Street, Worcester, Mass.
1893. Ford, Francis C., 545 S. Euclid Avenue, Pasadena, Cal.
1895. Forsbeck, Filip A., 425 Milwaukee Street, Milwaukee, Wis.
1892. Fortiner, Ida F., 517 Cooper Street, Camden, N. J.
1881. Foss, David, Newburyport, Mass.
1892. Foster, Frederick H., 34 Washington Street, Chicago, Ill.
1880. Foster, Richard N., 753 Jackson Boulevard, Chicago, Ill.
1867. FOSTER, WILLIAM D., 420 W. 11th Street, Kansas City, Mo.
1888. Fowler, De Witt C., Aberdeen, S. Dakota.
1896. Fowler, Walter N., Hook Street, Ann Arbor, Mich.
1889. Franklin, William A., Harvey, Ill.
1894. Freeman, Roscoe E., Los Gatos, Cal.
1886. Freer, James A., 1523 I Street, N. W., Washington, D. C.
1875. French, Hayes C., 114 Geary Street, San Francisco, Cal.
1894. French, Malachi R., 44 E. Madison Street, Chicago, Ill.

1896. Frost, William A., Tecumseh, Mich.
1895. Fryer, Winsor F., 26 Oak Street, Middleboro, Mass.
1893. Fulford, George Howard, 233 Phillips Avenue South, Sioux Falls, S. Dak.
1885. Fuller, Charles Gordon, 39 Central Music Hall, Chicago, Ill.
1895. Fuller, Walter Tracy, 738 Dudley Street, Boston, Mass.
1874. Fulton, Henry W., 5949 Penn Avenue, Pittsburg, Pa.
1894. Furman, Horace S., 1705 Tioga Street, Philadelphia, Pa.

1886. Gale, Charles A., Rutland, Vt.
1891. Galloway William L., 1232 Taylor Avenue, St. Louis, Mo.
1890. Gann, John A., Wooster, O.
1891. Gannett, James C., Yarmouth, Me.
1884. Gardner, Franklin A., 1016 14th Street, N. W., Washington, D. C.
1895. Gardner, Frank Augustine, 23 North Street, Salem, Mass.
1894. Gardner, Henry Seth, Lawrence, Kan.
1895. Gary, Clara Emerrette, 546 Columbus Avenue, Boston, Mass.
1891. Garey, Henry F., 411 N. Charles Street, Baltimore, Md.
1892. Garrison, John B., 111 E. 70th Street, New York, N. Y.
1866. GARSIDE, WILLIAM B., East Orange, N. J.
1893. Garwood, Vashti D., 40 12th Street, Ann Arbor, Mich.
1889. Gatchell, Charles, 162 30th Street, Chicago, Ill.
1895. Geddes, Annie Lowe, Ridgewood Avenue, Glen Ridge, N. J.
1881. Geiser, S. R., 1511 Baymiller Street, Cincinnati, O.
1880. Gentry, William D., Roger's Park, Cook Co., Ill.
1891. Geohegan, William A., 918 Hawthorne Avenue, Price's Hill, Cincinnati, O.
1896. George, Edgar J., 31 Washington Street, Chicago, Ill.
1893. Gibbs, James C., Crown Point, Ind.
1879. Gifford, Willis R., Attica, N. Y.
1869. GIFFORD, GILBERT L., Hamilton, N. Y.
1888. Gilbert, Charles B., 1403 H Street, N. W., Washington, D C.
1891. Gilbert, Irwin R., 2027 Columbia Avenue, Philadelphia, Pa.
1893. Gilbert, William S., Edina, Mo.
1894. Gilchrist, James Grant, 215 College Street, Iowa City, Iowa.
1893. Gillard, David, Port Clinton, O.
1890. Gillard, Edwin, 423 Columbus Avenue, Sandusky, O.
1890. Gillespie, Thomas, Kenosha, Wis.
1880. Given, Adam, 1403 W. Jefferson Street, Louisville, Ky.
1891. Givens, Amos Jay, Stamford, Conn.
1895. Gleason, Charles Sherman, Wareham, Mass.
1891. Godshall, Samuel G., Edge Hill, Pa.
1891. Goff, Ella D, 41 N. Diamond Street, Allegheny, Pa.
1892. Goodell, Charles F, 15 N. Market Street, Frederick, Md.
1887. Gooding, E. Jeanette, 223 W. Springfield Street, Boston, Mass.
1890. Gooding, Gertrude, Bristol, R. I.
1894. Goodman, Charles H., 3329 Washington Avenue, St. Louis, Mo.
1892. Goodman, Julia, 401 Ross Street, Hamilton, O.
1887. Goodno, William C., 1733 Chestnut Street, Philadelphia, Pa.
1890. Gordon, F. W., Sterling, Ill.

1870. GORDON, GEORGE A., Chillicothe, Mo.
1893. Gordon, Oliver W., 1703 Graham Avenue, Council Bluffs, Iowa.
1883. Gorham, George Elmer, 160 Hamilton Street, Albany, N. Y.
1889. Gorton, Fred. T., Portage, Wis.
1885. Gottschalck, William von, Central Falls, R. I.
1892. Gould, Herbert Dearborn, New Boston, N. H.
1890. Gould, William W., Rochelle, Ill.
1892. Graham, Walter S., Titusville, Fla.
1869. GRAMM, GUSTAVUS E., Ardmore, Pa.
1896. Gramm, Theodore J., 846 N. Broad Street, Philadelphia, Pa.
1891. Grant, Albert B., Jackson, Mich.
1891. Grant, William H., Ossipee Centre, N. H.
1892. Graves, Kate I., 5663 Washington Avenue, Chicago, Ill.
1869. GRAVES, S. P., Saco, Me.
1893. Gray, Thomas J., Chicago, Ill.
1881. Green, Charles L., 16 Jackson Street, Providence, R. I.
1882. Green, William E., Little Rock, Ark.
1871. GREENLEAF, JOHN T., Owego, N. Y.
1874. Gregory, Edward P., 358 State Street, Bridgeport, Conn.
1881. Griffith, Anna E., 501 N. 4th Street, Camden, N. J.
1895. Griffith, Alexander Randall, 535 Wellington Street, Montreal, Can.
1891. Griffith, Lewis B., 2526 Ridge Avenue, Philadelphia, Pa.
1891. Griffith, Silas, 1431 Girard Avenue, Philadelphia, Pa.
1891. Griffith, William M., 2035 Ridge Avenue, Philadelphia, Pa.
1895. Griggs, Elma, 9 E. Seneca Street, Ithaca, N. Y.
1870. GROSVENOR, LEMUEL C., 185 Lincoln Avenue, Chicago, Ill.
1889. Grosvenor, Lorenzo N., 756 Kenmore Avenue, Chicago, Ill.
1895. Grosvenor, Wallace Fahnestock, 185 Lincoln Avenue, Chicago, Ill.
1883. Gross, James Eldridge, 95 Wabash Avenue, Chicago, Ill.
1893. Grundmann, J. William, 1000 W. Jefferson Avenue, St. Louis, Mo.
1848. GUERNSEY, EGBERT, 180 W. 59th Street, New York, N. Y.
1875. Guernsey, Joseph C., 1923 Chestnut Street, Philadelphia, Pa.
1874. Guernsey, W. N., 27 W. 52d Street, New York, N. Y.
1867. GUMPERT, B. B., 840 Franklin Street, Philadelphia, Pa.
1893. Gundelach, Charles H., 3900 Westminster Place, St. Louis, Mo.
1890. Gutherz, Lizzie G., 3600 Olive Street, St. Louis, Mo.
1847. GUY, SAMUEL S., 2131 Gratz Avenue, Philadelphia, Pa.

1895. Haines, Oliver Sloane, 137 N. 15th Street, Philadelphia, Pa.
1887. Halbert, Homer V., 70 State Street, Chicago, Ill.
1865. HALE, EDWIN M., 65 22d Street, Chicago, Ill.
1891. Hall, Amos C., 1273 E. 73d Street, Chicago, Ill.
1891. Hall, Harrison B., Riverton, N. J.
1889. Hall, Levi, 77 Highland Avenue, Minneapolis, Minn.
1894. Hall, Matthew J., Mamaroneck, N. Y.
1892. Hall, P. Sharpless, 1604 Arch Street, Philadelphia, Pa.
1874. Hall, Robert, Cranston Street, Providence, R. I.
1885. Hall, William G., 822 Jule Street, St. Joseph, Mo.

1893. Hallett, Joseph, Bloomington, Ill.
1896. Hallman, Victor H., 606½ Central Avenue, Hot Springs, Ark.
1889. Hallock, J. Henry, 414 S. Salina Street, Syracuse, N. Y.
1846. HALLOCK, LEWIS, 34 E. 39th Street, New York, N. Y.
1836. Halsey, Frederick W., 272 Newberry Street, Boston, Mass.
1893. Halsted, Milton A., Jacksonville, Ill.
1852. HAMMOND, MILTON, 310 N. Paca Street, Baltimore, Md.
1889. Hanchett, Alfred P., Council Bluffs, Ia.
1893. Hanchett, James C., Salt Lake City, Utah.
1891. Hanchett, John L., 601 Jackson Street, Sioux City, Ia.
1889. Hanchett, Wm. Henry, 323 S. 15th Street, Omaha, Neb.
1893. Hancock, Joseph, 1639 Columbia Avenue, Philadelphia, Pa.
1891. Hanscom, Walter V., Rockland, Me.
1892. Hannah, Helen M., 3030 Prairie Avenue, Chicago, Ill.
1892. Harman, George W., 900 Broad Street, Newark, N. J.
1889. Harnden, George B., Sherburne, Minn.
1891. Harrington, Edwin S., 1444 S. Broad Street, Philadelphia, Pa.
1889. Harris, Nellie R., Des Moines, Ia.
1882. Harris, W. John, 3107 Morgan Street, St. Louis, Mo.
1894. Harrison, Julia C., "The Cairo," Washington, D. C.
1894. Hart, Charles V., Barth Block, Denver, Colo.
1895. Hartman, W. Louis, Clyde, N. Y.
1879. Hartshorne, D. W., 102 Garfield Place, Cincinnati, O.
1895. Hasbrouck, Cornelius J., Hope Street, Bristol, R. I.
1875. Hasbrouck, Everett, 369 9th Street, Brooklyn, N. Y.
1887. Hasbrouck, Sayer, Providence, R. I.
1889. Hassell, Samuel E., Lancaster, Wis.
1892. Hassler, J. Wyllis, 729 N. 17th Street, Philadelphia, Pa.
1892. Hassler, M. Margaret, 105 N. 8th Street, Allentown, Pa.
1881. Hassler, William A., 105 N. 8th Street, Allentown, Pa.
1893. Hastings, William C., 11 S. Washington Street, Van Wert, O.
1857. HATCH, PHILO L., 1901 San Pascual Street, Santa Barbara, Cal.
1892. Hathaway, Henry Skinner, 146 W. 92d Street, New York, N. Y.
1892. Hattan, Albert Henry, Peru, Ill.
1896. Hauxhurst, Howard H., 1333 L Street, N. W., Washington, D. C.
1879. Hawkes, William J., 100 State Street, Chicago, Ill.
1895. Hawley, Hercules Reed, Staatsborg, N. Y.
1865. HAYNES, J. R., 262 N. Illinois Street, Indianapolis, Ind.
1869. HAYWARD, JOSEPH W., Taunton, Mass.
1895. Haywood, George William, 45 Hanover Street, Lynn, Mass.
1884. Hazard, Theodore Lincoln, 12 N. Clinton Street, Iowa City, Ia.
1888. Heberton, William W., South Orange, N. J.
1890. Hedges, Albert P., 1383 N. Clark Street, Chicago, Ill.
1891. Hedges, LeRoy C., Ravenswood, Chicago, Ill.
1868. HEDGES, S. P., 890 Evanston Avenue, Chicago, Ill.
1893. Heffron, Helen M., Washington Heights, Ill.
1887. Heilner, Herbert Franklin, Burr Building, Scranton, Pa.
1853. HELMUTH, WILLIAM TOD, 504 5th Avenue, New York, N. Y.

1887. Helmuth, William Tod, Jr., 465 Lexington Avenue, New York, N. Y.
1896. Hendershott, Lizzie A., Irving, Mich.
1895. Hendy, Clara A., Oak Park, Ill.
1894. Henry, Samuel Dwyer, Excelsior Springs, Mo.
1892. Heritage, Alfred C., Jenkintown, Pa.
1891. Heron, William H., 1016 9th Street, N. W., Washington, D. C.
1893. Herrick, E. L., Hebron, Ill.
1874. Herron, Charles D., 3505 Butler Street, Pittsburg, Pa.
1887. Hershberger, Joseph P., Lancaster, O.
1891. Hetherington, Judson Egbert, 1035 Warren Avenue, Chicago, Ill.
1891. Hickox, Kate Louisa, 616 Felix Street, St. Joseph, Mo.
1885. Hicks, Susan M., "The Grand," Atlanta, Ga.
1871. HIGBEE, ALBERT E., Masonic Temple, Minneapolis, Minn.
1871. HIGBEE, CHESTER G., cor. 9th and Robert Streets, St. Paul, Minn.
1894. Higbee, Frank Oscar, City Hospital, Louisville, Ky.
1891. Hill, Lucy Chaloner, 492 N. Main Street, Fall River, Mass.
1895. Hill, Noble Hind, 35 Huntington Avenue, Boston, Mass.
1867. HILL, ROBERT L., 564 14th Street, Oakland, Cal.
1892. Hill, W. Scott, 154 State Street, Augusta, Me.
1891. Hinckley, Walter F., 343 Grand Street, Waterbury, Conn.
1876. Hindman, David R., Marion, Ia.
1867. HINDS, W. H. W., Milford, N. H.
1893. Hinman, Albert W., 720 Washington Street, Chicago, Ill.
1893. Hinrichsen, Jens Arnum.
1896. Hinsdale, Wilbert B., Ann Arbor, Mich.
1891. Hislop, Margaret, 313 M Street, N. W., Washington, D. C.
1873. Hitchcock, Dexter, Norwalk, Conn.
1879. Hoag, Clitus S., 321 Lafayette Street, Bridgeport, Conn.
1896. Hoag, Frank L., 373 S. College Avenue, Grand Rapids, Mich.
1896. Hoag, James H., Oxford, Ind.
1894. Hoag, Sanford, 528 22d Street, Denver, Colo.
1887. Hobart, W. P., Grand Forks, N. Dak.
1895. Hodgdon, Frank A., 45 Pleasant Street, Malden, Mass.
1895. Hodge, William H., 265 3d Street, Niagara Falls, N. Y.
1895. Hodgson, Mary C., Stoneham, Mass.
1892. Hoey, Wm. F., Frederica, Del.
1880. Hofmann, Charles H., 510 S. Highland Avenue, Pittsburg, Pa.
1886. Hoffman, Jacob Oliver, Orleans, Neb.
1892. Holbrook, Francis D., 100 State Street, Chicago, Ill.
1888. Holcombe, J. Randolph, 1327 Girard Avenue, Philadelphia, Pa.
1893. Holland, Joseph H., Argentine, Kan.
1892. Hollopeter, Charles M., Beatrice, Neb.
1896. Holmes, Frances W., Bellevue Avenue, Upper Montclair, N. J.
1887. Holmes, Henry P., Lansingburg, N. Y.
1886. Holmes, Horace P., 1708 Douglas Street, Omaha, Neb.
1869. HOLT, EDWARD B., Lowell, Mass.
1893. Honberger, Frank Henry, 3808 Indiana Avenue, Chicago, Ill.
1894. Hood, C. Todd, 31 Washington Street, Chicago, Ill.

1885. Hooker, Edward B., 253 Main Street, Hartford, Conn.
1889. Hoover, Willis C., Iquique, Chili, S. A.
1896. Hopkins, William T., 65 Broad Street, Lynn, Mass.
1883. Horner, J. Richey, 79 Arch Street, Allegheny, Pa.
1888. Horning, David W., 608½ Nicollet Avenue, Minneapolis, Minn.
1888. Hough, Walter D., Niagara Falls, N. Y.
1859. HOUGHTON, HENRY A., 136 Marlborough Street, Boston, Mass.
1867. HOUGHTON, HENRY C., 7 W. 39th Street, New York, N. Y.
1888. Houghton, Neidhard H., 544 Columbus Avenue, Boston, Mass.
1875. House, Robert B., Springfield, O.
1883. Howard, Erving Melville, 401 Linden Street, Camden, N. J.
1881. Howe, J. Morgan, 58 W. 47th Street, New York, N. Y.
1889. Howe, Willella, Santa Anna, Cal.
1883. Hoyt, Charles, Chillicothe, O.
1894. Hoyt, Lucius F., Jefferson, Iowa.
1896. Hoyt, Mary O., 26 N. 4th Street, Keokuk, Ia.
1891. Hubbard, Charles H., 8th and Madison Streets, Chester, Pa.
1894. Hudson, Thomas Howard, Kansas City, Mo.
1888. Humphrey, Frank M., South Windham, Conn.
1869. HUMPHREY, OTIS M., 100 E. 14th Street, Minneapolis, Minn.
1894. Humphrey, William Armine, Plattsmouth, Neb.
1895. Hunt, Annie W., 217 Washington Street, Providence, R. I.
1892. Hunt, Charles Richard, 262 Union Street, New Bedford, Mass.
1874. Hunt, Dwight B., 159 Madison Avenue, New York, N. Y.
1896. Hunt, John S., Athens, O.
1886. Hunt, Maurice P., "The Ruggery," Columbus, O.
1884. Hunter, Horatio M., Lowell, Mass.
1888. Hurd, S. Wright, 73 Main Street, Lockport, N. Y.
1896. Huss, John R., Eureka, Kan.
1872. Hutchins, H. S., Batavia, N. Y.
1895. Hyde, Louis D., Owego, N. Y.
1896. Hyde, Rufus J., Eaton Rapids, Mich.

1894. Irvine, Joseph Clinton, Steele Block, Denver, Colo.
1893. Irwin, Thomas A., 1234 Liberty Street, Franklin, Pa.
1887. Ivins, Horace F., 1621 Chestnut Street, Philadelphia, Pa.

1876. Jackson, Edward R., Dubuque, Ia.
1878. Jackson, W. L., 86 Dudley Street, Boston, Mass.
1859. JAMES, BUSHROD W., cor. Green and 18th Streets, Philadelphia, Pa.
1866. JAMES, JOHN E., 1521 Arch Street, Philadelphia, Pa.
1891. Janney, Edgar, 12 Iowa Circle, N. W., Washington, D. C.
1891. Janney, O. Edward, 837 N. Eutaw Street, Baltimore, Md.
1857. JAYNE, DEWITT C., Florida, N. Y.
1886. Jefferds, Henry Clarke, 67 Dakom Building, Portland, Ore.
1859. JEFFERDS, GEORGE P., Bangor, Me.
1896. Jenkins, Charlie G., Mason, Mich.
1891. Jenkins, Ralph, 1732 Massachusetts Avenue, N. W., Washington, D. C.

1894. Jenks, Frank R., 332 Main Street, Pawtucket, R. I.
1873. Jenney, William H., Broadway and 12th St., Kansas City, Mo.
1893. Jennings, Rudolphus D., Hot Springs, S. Dak.
1887. Jewett, Joseph Waldo, New Haven, Conn.
1887. Jewitt, Edward H., 484 Arcade, Cleveland, O.
1893. Johns, Emory B., 24 E 2d Street, Lexington, Ky.
1893. Johnson, Charles Frederic, 26 Market Street, Newburyport, Mass.
1893. Johnson, Cora May, Skowhegan, Me.
1876. Johnson, George H. T., Atchison, Kan.
1860. JOHNSON, ISAAC D., Kennett Square, Pa.
1876. Johnson, Maria N., 823 Sutter Street, San Francisco, Cal.
1870. JOHNSON, R. B, Ravenna, O.
1895. Johnson, Sara, 40 W. Newton Street, Boston, Mass.
1883. Johnson, Seymour A., Kalkaska, Mich.
1890. Johnson, Solomon D., 403 Grand Avenue, Milwaukee, Wis.
1892. Johnson, Thaddeus L., Pomona, Cal.
1885. Johnson, Theodore M., 240 Susquehanna Avenue, Pittston, Pa.
1894. Johnston, Charles L., 467 Vanderbilt Avenue, Brooklyn, N. Y.
1891. Jones, A. Cuvier, Colorado Springs, Colo.
1874. Jones, Charles E., Albany, N. Y.
1873. Jones, Gaius J., 5 Rockwell Street, Cleveland, O.
1867. JONES, HENRY C., 1220 S. First Avenue, Mount Vernon, N. Y.
1892. Jones, John J., 1802 Mount Vernon Street, Philadelphia, Pa.
1886. Jones, Joseph, San Antonio, Texas.
1858. JONES, JOSEPH E., West Chester, Pa.
1875. Jones, Leonidas M., Brooklyn, Mich.
1881. Jump, Julia C., 85 N. Main Street, Oberlin, O.
1889. Just, August Adolph, Crookston, Minn.

1890. Kaetel, Charles H., Maysville, Wis.
1895. Kahlke, Charles E., 3034 Michigan Avenue, Chicago, Ill.
1890. Kanouse, Edward M., Wausau, Wis.
1876. Kanouse, Abijah W., Appleton, Wis.
1893. Karsner, Charles W., 1409 S. 15th Street, Philadelphia, Pa.
1893. Karst, F. August, 636 Sedgwick Street, Chicago, Ill.
1892. Kasselman, Harry Christian, Midway, Ky.
1883. Keator, Bruce S., Asbury Park, N. J.
1888. Keegan, William A., 52 Clinton Street, Rochester, N. Y.
1891. Keeler, Charles B., New Canaan, Conn.
1889. Keeler, E. Elmer, 423 E. Jefferson Street, Syracuse, N. Y.
1888. Keeney, J. Harvey, 9 W. Bridge Street, Oswego, N. Y.
1874. Keep, Caroline J. Yeomans, 308 W. 36th Street, New York, N. Y.
1867. KEEP, J. LESTER, 460 Clinton Avenue, Brooklyn, N. Y.
1892. Kehr, Samuel S., California Building, Denver, Colo.
1895. Keith, Horace G., 2 Hudson Street, Yonkers, N. Y.
1893. Keith, William E., San José, Cal.
1858. KELLOGG, EDWIN M., 19 E. 38th Street, New York, N. Y.
1894. Kenyon, Frances Aureola, 487 E. 42d Street, Chicago, Ill.

1896. Kerch, Harry E., Dundee, Ill.
1894. Kerr, Harlan T., 105 Perry Street, Peoria, Ill.
1878. Kershaw, J. Martine, 3421 Washington Avenue, St. Louis, Mo.
1870. KING, EDWARD H., 906 Fifteenth Street, Denver, Colo.
1888. King, William R., 1422 K Street, N. W., Washington, D. C.
1891. King, William Harvey, 64 W. 51st Street, New York, N. Y.
1894. King, Sylvester M., Albia, Ia.
1895. Kingsbury, Edward N., 93 Blackstone Street, Woonsocket, R. I.
1891. Kingsman, Richard, 701 E. Capitol Street, Washington, D. C.
1887. Kinne, Arthur B., Syracuse, N. Y.
1887. Kinne, E. Olin, Syracuse, N. Y.
1892. Kinne, Porter S., Paterson, N. J.
1869. KINNE, THEODORE Y., Paterson, N. J.
1891. Kinley, Joseph B., 1406 Champa Street, Denver, Colo.
1880. Kinyon, Claudius B., 3d Avenue and 16th Street, Rock Island, Ill.
1870. KIPPAX, JOHN R., 3154 Indiana Avenue, Chicago, Ill.
1792. Kirk, Ellen Maria, 169 W. 7th Street, Cincinnati, O.
1893. Kirkland, Edward, Bellow's Falls, Vt.
1890. Kirkpatrick, John C., 328 W. 3d Street, Los Angeles, Cal.
1891. Kistler, Abraham L., 115 N. 9th Street, Allentown, Pa.
1869. KITTINGER, LEONARD, 724 King Street, Wilmington, Del.
1886. Kittinger, Leonard Armor, 724 King Street, Wilmington, Del.
1896. Klein, Emma, 156 St. Aubin Avenue, Detroit, Mich.
1895. Klopp, Henry Irwin, Westboro, Mass.
1871. KNEASS, NICHOLAS W., 607 N. Charles Street, Baltimore, Md.
1871. KNERR, CALVIN B., 1137 Spruce Street, Philadelphia, Pa.
1897. Knight, Stephen H., 14 W. Willis Avenue, Detroit, Mich.
1838. KNOX, Joseph H., 11 College Avenue, Waterville, Me.
1896. Koch, Margaret, Ashmore Flats, Minneapolis, Minn.
1875. Korndœrfer, Augustus, 1728 Green Street, Philadelphia, Pa.
1886. Kraft, Frank, 57 Bell Avenue, Cleveland, O.
1865. KREBS, FRANCIS H., 42 Union Park, Boston, Mass.
1896. Kreider, Martin K., Goshen, Ind.
1892. Krewson, Amos D., 4613 Paul Street, Frankford, Philadelphia, Pa.
1888. Krogstad, Henry, 915 16th St., N. W., Washington, D. C.

1894. Laidlaw, George Frederick, 137 W. 41st Street, New York, N. Y.
1887. Laird, F. F., Utica, N. Y.
1874. Laird, William T., Watertown, N. Y.
1896. Lance, John D., Broadway, Providence, R. I.
1895. Lards, Charles H., 33 Butler Street, Adrian, Mich.
1895. Latham, Carrie Augusta, 38 Central Street, Leominster, Mass.
1895. Lawrence, F. Mortimer, 2810 Ridge Avenue, Philadelphia, Pa.
1894. Lawrence, George W., Colorado Springs, Colo.
1885. Lawshé, John Z., 116½ Peachtree Street, Atlanta, Ga.
1891. Layman, Alfred, 1630 N. 18th Street, Philadelphia, Pa.
1893. Leach, Reginald Barkley, 117 S. Main Street, Paris, Texas.
1889. Leal, Malcolm, 107 W. 48th Street, New York, N. Y.

1896. Leavitt, Henry H., 909 4th Street, S. E., Minneapolis, Minn.
1882. Leavitt, Sheldon, 148 37th Street, Chicago, Ill.
1888. Lee, John Mallory, 89 Plymouth Avenue, Rochester, N. Y.
1888. Lee, Sarah Idella, 836 Sutter Street, San Francisco, Cal.
1890. Lefferts, Franklin P., Belvidere, N. J.
1895. Lehman, Franklin Frees, Kingsbury Block, Sandusky, O.
1890. Leland, A. G., Whitewater, Wis.
1891. Leland, Clarence H., 128 Merrimack Street, Lowell, Mass.
1896. Lenfestey, John A., 27 N. Gratiot Street, Mount Clemens, Mich.
1891. Lentz, Levi R., Fleetwood, Pa.
1882. Leonard, William E., 608 Nicollet Avenue, Minneapolis, Minn.
1893. LeRoy, Elmore W., 207 S. Clark St., Chicago, Ill.
1886. LeSeur, John Wesley, Batavia, Genesee County, N. Y.
1888. Leseure, Oscar, 406 Cass Avenue, Detroit, Mich.
1877. Lewis F. Park, 188 Franklin St., Buffalo, N. Y.
1871. Lewis, Henry M., 10 S. Portland Avenue, Brooklyn, N. Y.
1880. Lewis, Joseph, Jr., 330 Hanover Street, Milwaukee, Wis.
1893. Light, Jacob Wilbert, Kingman, Kan.
1891. Lindley, Havard, 3307 Lucas Avenue, St. Louis, Mo.
1895. Lines, Mary Louise, 344 Washington Avenue, Brooklyn, N. Y.
1887. Linn, A. M., 605 Walnut Street, Des Moines, Ia.
1893. Linn, Ellis Gregg, Mt. Pleasant, Ia.
1885. Linnell, E. H., 61 Broadway, Norwich, Conn.
1895. Lippitt, Louis Davis, 24 Dyer Avenue, Olneyville, R. I.
1893. Llewellyn, Henry S., N. E. Cor 5th and Harris Avenues, La Grange, Ill.
1893. Loelkes, George, 202 S. Jackson Street, Belleville, Ill.
1891. Long, Oscar R., Ionia, Mich.
1858. Lougee, William H., Lawrence, Mass.
1890. Lowe, Thomas, Slayton, Minn.
1885. Lowenthal, Louis, 1405 W. 103d Street, Chicago, Ill.
1895. Lowry, Charles, 64 W. 48th Street, New York, N. Y.
1857. Ludlam, Reuben, 1823 Michigan Avenue, Chicago, Ill.
1887. Ludlam, Reuben, Jr., 1823 Michigan Avenue, Chicago, Ill.
1873. Lukens, M.B., Dalton, Ga.
1896. Lunger, Justus S., E. Water Street, Prospect, O.
1891. Lyon, Malvern S., Absecom, N. J.

1895. Maas, Elizabeth C., 129 N. Main Street, Rockford, Ill.
1895. MacBride, Nathaniel Louis, 158 W. 43d Street, New York, N. Y.
1892. MacCallum, John H., 135 Broadway, Rochester, N. Y.
1893. MacCracken, Mary E. Avery, 4327 Greenwood Avenue, Chicago, Ill.
1890. MacCracken, William P., 4327 Greenwood Avenue, Chicago, Ill.
1892. MacDonald, John A., Elkhorn, Wis.
1891. MacDonald, Thomas L., 1402 Massachusetts Avenue, N. W., Washington, D. C.
1892. MacDonald, William H., Lake Geneva, Wis.
1891. Macfarlan, Duncan, 3924 Chestnut Street, Philadelphia, Pa.
1868. Macfarlan, Malcolm, 1805 Chestnut Street, Philadelphia, Pa.

1890. Mack, Charles S., 320 E. 57th Street, Chicago, Ill.
1895. Mack, Helen G. Flagler, 92 White Street, Boston, Mass.
1886. MacLachlan, Daniel A., 6 Adams Avenue, Detroit, Mich.
1891. MacMaster, Marian A., 605 Warren Street, Syracuse, N. Y.
1889. Macomber, Acastus L., Norfolk, Neb.
1887. Macomber, H. K., Pasadena, Cal.
1891. Macrum, Charles A., Marquam Block, Portland, Ore.
1896. McCauley, John C., 185 Connecticut Street, Rochester, Pa.
1896. McCausland, H. G., 25 High Street, W. Detroit, Mich.
1881. McClellan, David, 104 Clinton Avenue, West Hoboken, N. J.
1879. McClelland, John B., 409 Penn Avenue, Pittsburg, Pa.
1867. McClelland, J. H., cor. 5th and Wilkins Avenue, Pittsburg, Pa.
1884. McClelland, Robert Watson, cor. 5th and Wilkins Avenue, Pittsburg, Pa.
1881. McClure, Eliza Lang, 1919 Wallace Street, Philadelphia, Pa.
1894. McClure, John R., 98 E. 2d Street, Portsmouth, O.
1896. McCormick, A. L., 3110 Woodburn Avenue, Cincinnati, O.
1895. McCullock, Carleton B., Cook County Hospital, Chicago, Ill.
1873. McDermott, George C., Odd Fellows' Temple, Cincinnati, O.
1874. McDonald, William O., 117 W. 44th Street, New York, N. Y.
1886. McDowell, Charles, 116 W. 13th Street, New York, N. Y.
1891. McDowell, George W., 134 W. 130th Street, New York, N. Y.
1894. McElwee, L. Claude, 215 S. Jefferson Avenue, St. Louis, Mo.
1869. McGeorge, Wallace, 521 Broadway, Camden, N. J.
1893. McGill, James Palmer, 4553 Forestville Avenue, Chicago, Ill.
1894. McIntosh, James W., Republic City, Kan.
1896. McIntyer, Edwin R., 386 N. Clark Street, Chicago, Ill.
1889. McKinney, Samuel P., 829 Warren Avenue, Chicago, Ill.
1891. McKinstry, Frank P., Washington, N. J.
1894. McKown, William James, 335 Hamilton Street, Albany, N. Y.
1896. McLaren, William R., 25 Washington Ave., Detroit, Mich.
1891. McMichael, Arkell R., 969 Madison Avenue, New York, N. Y.
1896. McMillan, Frances, Jackson Building, Nashville, Tenn.
1891. Maddux, Daniel P., 700 Madison Street, Chester, Pa.
1895. Maeder, John G., 304 E. 120th Street, New York, N. Y.
1891. Malin, William H., Chestnut Hill, Philadelphia, Pa.
1883. Manahan, Manning W., Atlanta, Ga.
1895. Mann, Martha Elizabeth, 2 Commonwealth Avenue, Boston, Mass.
1896. Mann, Jesse E., Paxton Block, 16th and Farnan Streets, Omaha, Neb.
1894. Mansfield, Harry Knox, 19 W. Chelten Avenue, Germantown, Philadelphia, Pa.
1881. Mansfield, Job R., 4852 Main Street, Germantown, Philadelphia, Pa.
1892. Mansfield, Joshua M., 632 Main Street, Quincy, Ill.
1848. Marcy, Erastus E., 396 5th Avenue, New York, N. Y.
1892. Mark, Ella V., 717 Madison Avenue, Baltimore, Md.
1895. Marsh, Franklin F., 106 Tremont Street, Boston, Mass.
1892. Marshall, Anna M., 1928 Chestnut Street, Philadelphia, Pa.
1890. Marshall, Robert S., cor. Penn and Hyland Avenues, East Liberty, Pittsburg, Pa.

1871. MARTIN, CONSTANTINE H., Allentown, Pa.
1893. Martin, Eleanor Frances, 921 Polk Street, San Francisco, Cal.
1895. Martin, George Albert, Boone, Boone County, Ia.
1893. Martin, Francis V., Westville, Ind.
1891. Martin, George Forrest, 17 Kirk Street, Lowell, Mass.
1889. Martin, George H., 921 Polk Street, San Francisco, Cal.
1891. Martin, Lynn Arthur, 91 Collier Street, Binghamton, N. Y.
1891. Martin, Thomas C., 791 Prospect Street, Cleveland, O.
1892. Martin, Truman J., 245 North Street, Buffalo, N. Y.
1878. Martin, W. J., 1712 Carson Street, S. S., Pittsburg, Pa.
1867. MASON, J. R., Devall's Bluff, Ark.
1891. Mathews, Mary D. Moss, 231 Broadway, Providence, R. I.
1892. Mattson, Alfred Simmons, Moorestown, N. J.
1894. Maurer, Joseph M., 59 W. Wheeling Street, Washington, Pa.
1892. Maxwell, Lewis K., 2208 Monroe Street, Toledo, O.
1895. May, George Elisha, Institution Ave. and Beacon St., Newton Centre, Mass.
1887. Maycock, Burt J., 262 Delaware Avenue, Buffalo, N. Y.
1891. Mayer, Charles R., 1032 St. Charles Avenue, New Orleans, La.
1895. Meade, Stephen Johnson D., 417 Everett Street, Cincinnati, O.
1895. Meader, Lee Douglas, 28 W. 7th Street, Cincinnati, O.
1891. Means, J. W., Troy, O.
1894. Mellies, Charles, 3825 N. 20th Street, St. Louis, Mo.
1885. Mellus, Edward Lyndon.
1894. Menninger, Charles Frederic, 727 Kansas Avenue, Topeka, Kan.
1893. Meredith, W. G., 1905 Euclid Avenue, Cleveland, O.
1891. Mercer, Edward W., 157 N. 15th Street, Philadelphia, Pa.
1871. MERCER, ROBERT P., 223 W. 3d Street, Chester, Pa.
1876. Mercer, William M., Galveston, Tex.
1871. MIDDLETON, CALEB S., 1523 Girard Avenue, Philadelphia, Pa.
1869. MIDDLETON, M. F., 423 Market Street, Camden, N. J.
1891. Middleton, Willis H., 1704 Girard Avenue, Philadelphia, Pa.
1894. Miessler, C. F. Otto, Columbus, Platt Co., Neb.
1891. Mifflin, Robert W., 402 Cathedral Street, Baltimore, Md.
1887. Milbank, William E., 111 State Street, Albany, N. Y.
1889. Miller, Byron E., "The Dekum," Portland, Ore.
1875. Miller, Christopher C., 31 Winder Street, Detroit, Mich.
1895. Miller, Edward Roscoe, 15 Merriam Street, Leominster, Mass.
1895. Miller, Lizbeth Dora, 12 Cordis Street, Boston, Mass.
1883. Miller, John, 48 St. John's Place, Buffalo, N. Y.
1888. Miller, Zachary T., 2013 Carson Street, Pittsburg, Pa.
1895. Mills, Walter Sands, 20 Copper Avenue, Albuquerque, N. M.
1896. Mills, Wesley J., Howell, Mich.
1887. Millsop, Sarah J., Bowling Green, Ky.
1893. Milner, Samuel George, 147 Monroe Street, Grand Rapids, Mich.
1888. Minard, Will Frank, Waterbury, Conn.
1892. Minnick, W. A., Wichita, Kan.
1888. Minton, Henry Brewster, 165 Joralemon Street, Brooklyn, N. Y.
1896. Mitchell, Clifford, 70 State Street, Chicago, Ill.

1871. MITCHELL, JOHN J., Newburgh, N. Y.
1875. Mitchell, John N., 113 S. 16th Street, Philadelphia, Pa.
1866. MITCHELL, J. S., 2954 Prairie Avenue, Chicago, Ill.
1881. Moffat, Edgar V., 476 Main Street, Orange, N. J.
1881. Moffat, John L., 17 Schermerhorn Street, Brooklyn. N. Y.
1892. Moffitt, Melvin M., 127 B Street, S. E., Washington, D. C.
1876. Mohr, Charles, 1823 Green Street, Philadelphia, Pa.
1894. Montgomery, Phineas J., 217 4th Street, Council Bluffs, Iowa.
1891. Montgomery, Richard W., 386 Manhattan Avenue, New York, N. Y.
1876. Monmonier, Julius L., 480 Classon Avenue, Brooklyn, N. Y.
1890. Monroe, Andrew L, Louisville, Ky.
1895. Monroe, John Eugene, Orange, Mass.
1896. Moon, Seymour B., 1314 8th Avenue, Beaver Falls, Pa.
1892. Moore, J. Herbert, Brookline, Mass.
1893. Mordoff, Charles H., Genoa, Ill.
1867. MORGAN, JOHN C., Millville, N. J.
1834. Morgan, William L., 202 W. Franklin Street, Baltimore, Md.
1890. Morgan, Willis B., 4200 N. Grande Avenue, St. Louis, Mo.
1890. Morely, F. W., Washington Row, Sandusky, O.
1878. Morrill, Edwin C., Norwalk, O.
1886. Morrill, Ezekiel, Concord, N. H.
1884. Morris, John W., Wheeling, W. Va.
1894. Morris, Norman K., 1430 Stout Street, Denver, Colo.
1894. Morrison, Frank A., 6 S. Main Street, Rock Creek, O.
1895. Morse. Charles W., 101 Essex Street, Salem, Mass.
1869. MORSE, MARTIN V. B., Marblehead, Mass.
1867. MORSE, NATHAN R., Salem, Mass.
1894. Morse, John Newton, Alma, Colo.
1872. Morse, Lucius D., P. O. Box 584, Atlanta, Ga.
1891. Mosher, Mary E., 53 Blue Hill Avenue, Roxbury, Mass.
1869. MOSSMAN, NATHAN A., 28 E. 47th Street, New York, N. Y.
1890. Mowry, Henry P., Bronson, Mich.
1896. Mueller, Gustave A., 400 Penn Avenue, Pittsburg, Pa.
1894. Mulford, Clarence H., Greeley, Colo.
1892. Mullins, Will S., 408 1st Street, Henderson, Ky.
1892. Munns, Charles O., Oxford, O.
1891. Munson, Milton L., 1503 Pacific Avenue, Atlantic City, N. J.
1892. Murdock, Edward A., 22 Pleasant Street, Spencer, Mass.
1893. Myers, Amos J., Creston, Ia.
1895. Myers, Charles E., 170 Green Lane, Manayunk, Philadelphia, Pa.
1895. Myers, Cornelius H., 305 Washington Street, South Bend, Ind.
1890. Myers, Priscilla G., Aurora, Ill.
1891. Myers, Samuel I., Avenue C and W. 33d Street, Bayonne, N. J.

1892. Nead, Will M., 205 State Street, Albany, N. Y.
1894. Neal, George H., Falls City, Neb.
1867. NEGENDANK, AUGUSTUS, 1112 Washington Street, Wilmington, Del.
1891. Negendank, Egmont T., 1112 Washington Street, Wilmington, Del.

1893. Neiberger, William Emory, 402 W. Jefferson Street, Bloomington, Ill.
1895. Neilson, Howard Stout, 257 E. 48th Street, New York, N. Y.
1890. Neumeister, Anton E., 1214 Main Street, Kansas City, Mo.
1892. Newberry, Frank J., 12 N. Clinton Street, Iowa City, Ia.
1890. Newell, R. C., 70 State Street, Chicago, Ill.
1895. Newton, Frank Loomis, 147 Highland Avenue, Somerville, Mass.
1876. Nichols, Ammi S., Portland, Ore.
1880. Nichols, Charles L., Worcester, Mass.
1892. Nichols, Clarence, 1439 E. Eager Street, Baltimore, Md.
1876. Nichols, George, 306 Monroe Street, Brooklyn, N. Y.
1886. Nickelson, W. H., A D. Ripley Block, Adams, N. Y.
1893. Nielsen, Theodore, 395 W. Chicago Avenue, Chicago, Ill.
1893. Nivison, Anna T., 567 Orange Street, Newark, N. J.
1889. Noble, James H., Eau Claire, Wis.
1887. Nordstrom, Cynthia Maria, 47 Washington Street, Malden, Mass.
1893. Norris, Maria Whittelsey, 21 N. Prospect Street, Grand Rapids, Mich.
1894. Northrup, Emerson S., 414 Garfield Avenue, Kansas City, Mo.
1889. Norton, Arthur B., 16 W. 45th Street, New York, N. Y.
1887. Norton, Claude R., 700 N. 40th Street, Philadelphia, Pa.
1881. Nott, Frederick J., 554 Madison Avenue, New York, N. Y.
1889. Nottingham, David M., Lansing, Mich.
1888. Nottingham, John C., Bay City, Mich.
1891. Nowell, John F., Greencastle, Pa.
1895. Noyes, Henry A., Mount Carroll, Ill.
1894. Nye, James D., 1443 Champa Street, Denver, Colo.

1882. Obetz, Henry L., 139 1st Street, Detroit, Mich.
1896. O'Brien, Emilie Y., 1307 N St., N. W., Washington, D. C.
1872. Ockford, George M., 3 Oak Street, Ridgewood, N. J.
1889. O'Connor, Joseph T., 18 W. 43d Street, New York, N. Y.
1884. Olin, Rollin C., 110 Henry Street, W. Detroit, Mich.
1890. Olmstead, Austin F., Green Bay, Wis.
1893. Olmsted, Elmer D., Spokane, Wash.
1895. Opdyke, Levings A., 55 Clinton Avenue, Jersey City, N. J.
1893. Orleman, E. Louise, 32 Bagg Street, Detroit, Mich.
1894. Ordway, Leonard S., 5309 Morgan Street, St. Louis, Mo.
1859. Orme, Francis H., 70 N. Forsyth Street, Atlanta, Ga.
1883. Ormes, Francis D., Jamestown, N. Y.
1876. Ostrom, Homer I., 42 W. 48th Street, New York, N. Y.
1893. Owen, Charles S., Wheaton, Ill.
1865. Owens, Wm., cor. 7th and John Streets, Cincinnati, O.

1881. Packard, Horace, 362 Commonwealth Avenue, Boston, Mass.
1886. Packer, Henry E., Gardner Centre, Mass.
1895. Pagan, Frank C., Westerly, R. I.
1890. Paine, Clarence M., 67 N. Forsyth Street, Atlanta, Ga.
1850. Paine, Horace M., 67 N. Forsyth Street, Atlanta, Ga.
1853. Paine, Joseph P., Hotel Eliot, Roxbury, Mass.

1890. Paine, Richard K., Manitowoc, Wis.
1877. Paine, N. Emmons, West Newton, Mass.
1891. Palmer, Anna Chipman, 27 Folsom Street, Boston, Mass.
1892. Palmer, A. Worrall, 138 W. 81st Street, New York, N. Y.
1892. Palmer, Owen A., Warren, O.
1848. PALMER, MILES W., 235 E. 18th Street, New York, N. Y.
1881. Pardee, Ensign B., 218 W. 34th Street, New York, N. Y.
1886. Pardee, Emily V. D., South Norwalk, Conn.
1895. Parker, Edwin Kenney, West Cornwall, Vt.
1891. Parker, James W., Warsaw, Ill.
1891. Parker, T. Elwood, Woodbury, N. J.
1896. Parkhurst, Alice S., 1410 Park Avenue, Baltimore, Md.
1883. Parsons, Anson, Springboro, Pa.
1888. Parsons, Edgar C., Meadville, Pa.
1879. Parsons, Katherine, 914 Prospect Street, Cleveland, O.
1885. Parsons, Scott B., 2809 Washington Avenue, St. Louis, Mo.
1894. Parsons, Scott E., St. Louis, Mo.
1873. Patchen, George H., 11 E. 59th Street, New York, N. Y.
1893. Patterson, H. S., Elkader, Ia.
1895. Patton, Hugh Mathewson, 125 Mansfield Street, Montreal, Canada.
1895. Paul, C. Almon, Solon, Me.
1892. Paul, William Kendall, Belmont, N. Y.
1891. Pauly, C. A., Odd Fellows' Temple, Cincinnati, O.
1867. PAYNE, FREDERICK W., cor. Exeter and Boylston Streets, Boston, Mass.
1860. PAYNE, JAMES H., 344 Commonwealth Avenue, Boston, Mass.
1893. Payne, John Howard, Pierce Building, Copley Square, Boston, Mass.
1895. Pearman, Sylvan, 633 E. Capitol Street, Washington, D. C.
1867. PEARSALL, S. J., Saratoga Springs, N. Y.
1892. Pearson, Mary M., 47 Worcester Street, Boston, Mass.
1895. Pease, Charles G., 101 W. 72d Street, New York, N. Y.
1895. Pease, Ella Gertrude, 601 Boylston Street, Boston, Mass.
1879. Peck, George B., 855 N. Main Street, Providence, R. I.
1894. Peck, Grant S., 708 14th Street, Denver, Colo.
1891. Peltier, Pierre D., 382 Main Street, Hartford, Conn.
1877. Penfield, Sophia, Danbury, Conn.
1870. PENNOYER, N. A., Kenosha, Wis.
1887. Percy, Frederick B., Brookline, Mass.
1887. Percy, George Emory, Salem, Mass.
1895. Perkins, Archie Elmer, South Ashburnham, Mass.
1895. Perkins, Charles Edwin, Warren, Mass.
1884. Perkins, Charles W., 403 Broad Street, Chester, Pa.
1890. Perkins, Ernest D., Ashland, Wis.
1886. Perkins, Wesley B., 45 Pleasant Street, Malden, Mass.
1893. Perky, Lenore, 148 S. 12th Street, Lincoln, Neb.
1889. Perrigo, E. Stella, Pipestone, Minn.
1896. Perrine, J. K. M., 413 Penn Avenue, Pittsburg, Pa.
1872. Pettengill, Eliza F., 300 N. 10th Street, Philadelphia, Pa.
1867. PHILLIPS, ALBERT WILLIAM, Birmingham, Conn.

1896. Phillips, William A., 89 Euclid Avenue, Cleveland, O.
1890. Phillips, R. Oliver, 257 Warburton Avenue, Yonkers, N. Y.
1891. Pierce, Willard Ide, 64 W. 126th Street, New York, N. Y.
1893. Pierson, Herman W., 6600 Gale Street, Chicago, Ill.
1894. Pillsbury, Cassius C., Superior, Wis.
1889. Pillsbury, Charles B., Palladio Building, Duluth, Minn.
1880. Pitcairn, Hugh, 206 W. State Street, Harrisburg, Pa.
1874. Plimpton, Clara C., Nashville, Tenn.
1894. Pollock, Joseph Robert, Fort Worth, Texas.
1895. Pollock, Martha Hayes, 232 N. 2d Street, Harrisburg, Pa.
1885. Pomeroy, Harlan, 526 Prospect Street, Cleveland, O.
1876. Pope, Gustavus W., 1109 14th Street, N. W., Washington, D. C.
1887. Pope, Willis G., Keeseville, N. Y.
1890. Poppele, Charles F., Mount Pulaski, Ill.
1887. Porter, Eugene H., 181 W. 73d Street, New York, N. Y.
1894. Posey, Louis Plumer, 1435 Walnut Street, Philadelphia, Pa.
1894. Powel, Milton, 163 W. 76th Street, New York, N. Y.
1888. Powell, William C., Bryn Mawr, Pa.
1894. Powers, A. Howard, 352 Massachusetts Avenue, Boston, Mass.
1874. Pratt, E. H., 100 State Street, Chicago, Ill.
1867. Pratt, Leonard, 520 N. 2d Street, San José, Cal.
1859. Pratt, Lester M., Homer, N. Y.
1891. Pratt, Trimble, Media, Pa.
1891. Price, Eldridge C., 1012 Madison Avenue, Baltimore, Md.
1867. Price, Elias C., 1012 Madison Avenue, Baltimore, Md.
1876. Price, Emmor H., 400 Georgia Avenue, Chattanooga, Tenn.
1892. Prilay, John M., 4 Somerset Street, Bangor, Me.
1889. Primm, John W., Woodstock, Ill.
1886. Printy, James Anthony, 598 Lincoln Avenue, Chicago, Ill.
1896. Probert, Clarence G., Huron, O.
1888. Pulford, Alfred, Ansonia, Conn.
1896. Pullen, Charles D., Mount Pleasant, Mich.
1895. Pulver, Hudson Josiah, 203 Main Street, Torrington, Conn.
1893. Pursell, James Perry, Easton, Pa.
1887. Putnam, William B., 34 Wilder Avenue, Hoosick Falls, N. Y.

1891. Quay, George H., 122 Euclid Avenue, East Cleveland, O.

1893. Raines, Taylor E., 6th and Broadway, Concordia, Kan.
1881. Rand, Nehemiah W., Monson, Mass.
1885. Rand, John Prentice, 49 Pleasant Street, Worcester, Mass.
1893. Randall, Albert Francis, Port Huron, Mich.
1881. Rankin, Egbert G., 180 W. 59th Street, New York, N. Y.
1865. Rankin, John S., cor. Roup and Howe Avenues, Pittsburgh, Pa.
1895. Rasmussen, Robert Ralph, Minneapolis, Minn.
1896. Rauterberg, Arthur C., 510 5th Street, N. W., Washington, D. C.
1891. Rauterberg, Lewis E., 510 5th Street, N. W., Washington, D. C.
1893. Ray, William L., 1214 Main Street, Kansas City, Mo.

1882. Ray, William R., 52 Collins Street, Melbourne, Australia.
1848. Raymond, Jonas C., 626 13th Street, Oakland, Cal.
1881. Reading, J. Herbert, 1811 Green Street, Philadelphia, Pa.
1888. Reading, Thomas, Hatboro, Pa.
1883. Reddish, A. W., Sidney, O.
1891. Reed, Clara D., 437 Centre Street, Newton, Mass.
1885. Reed, Robert G., Woonsocket, R. I.
1885. Reed, Thomas E., Middletown, O.
1894. Rees, Owen, Toledo, O.
1888. Reeves, Joseph M., 1609 Mount Vernon Street, Philadelphia, Pa.
1893. Regan, M. R., Eureka Springs, Ark.
1896. Reid, Robert G, Fonda Block, Louisville, Ky.
1893. Reininger, Edward E., 353 S. Oakley Street, Chicago, Ill.
1883. Renninger, John S., Marshall, Minn.
1893. Replogle, Peter S., Champaign, Ill.
1891. Reynolds, Warren U., 354 Manhattan Avenue, New York, N. Y.
1846. Rhees, Morgan J., Wheeling, W. Va.
1895. Rice, George Brackett, 229 Berkeley Street, Boston, Mass.
1892. Rice, Marvin S., Aurora, Ill.
1894. Rich, Frank, Ramsdell Building, Manistee, Mich.
1893. Rich, Frederick W., Riverside, Ill.
1886. Richards, George E., Central Music Hall, Chicago, Ill.
1891. Richards, George Herbert, Orange, N. J.
1896. Richards, R. Milton, 25 Washington Avenue, Detroit, Mich.
1890. Richardson, Andrew J., 39 E. 83d Street, New York, N. Y.
1872. Richardson, B. M., 151 Milton Street, Brooklyn, N. Y.
1895. Richardson, Edward Blake, Chelsea and Corey Streets, Everett, Mass.
1886. Richardson, Frank C., 601 Boylston Street, East Boston, Mass.
1891. Richardson, George W., 138 E. 79th Street, New York, N. Y.
1893. Richardson, Oscar K., 303 Masonic Temple, Minneapolis, Minn.
1876. Richardson, Wm. C., 3913 N. 11th St., St. Louis, Mo.
1892. Richmond, Hiram W., 106 Euclid Avenue, Cleveland, O.
1891. Ricker, Marcena S., 58 Lannir Street, Rochester, N. Y.
1883. Ridge, Jonathan T., 1617 N. 7th Street, Philadelphia, Pa.
1887. Riggs, D. H., 1410 11th Street, N. W., Washington, D. C.
1889. Righter, Frederick B., 44 Burr Block, Lincoln, Neb.
1893. Ripley, George H., Kenosha, Wis.
1889. Ripley, Martha G., 48 S. 8th Street, Minneapolis, Minn.
1893. Roberts, Alfonso Adelbert, Baraboo, Wis.
1891. Roberts, Charles Wesley, 638 Washington Avenue, Scranton, Pa.
1892. Roberts, D. J., New Rochelle, N. Y.
1881. Roberts, George F., 608 Nicollet Avenue, Minneapolis, Minn.
1891. Roberts, Grace, 1109 K Street, N. W., Washington, D. C.
1892. Roberts, George Watson, 1672 Broadway, New York, N. Y.
1889. Roberts, Lemuel Martin, Little Falls, Minn.
1890. Roberts, Susan A., Lemont, Ill.
1889. Roberts, Thomas Elmer, 144 South Oak Park Avenue, Oak Park, Ill.
1894. Robilliard, Walter H., Liscomb, Ia.

1893. Robinson, Edward Hartley.
1891. Robinson, Franklin E., Carthage, N. Y.
1866. Robinson, S. A., West New Brighton, N. Y.
1884. Robson, John W., N. Highland Avenue, Pittsburg, Pa.
1893. Roby, George F., Lakeport, N. H.
1889. Roby, Henry W., Topeka, Kan.
1890. Rockwell, Cortland B., 5401 Madison Avenue, Chicago, Ill.
1881. Rockwell, John A., Norwich, Conn.
1849. Rodman, William V., New Haven, Conn.
1891. Rogers, L. D., 441 Dearborn Ave., Chicago, Ill.
1894. Rogers, Rebecca W., 19 Marion Block, Indianapolis, Ind.
1886. Rollins, Charlotte A., Chelsea, Mass.
1895. Ross, Alice Idella, 1234 6th Street, Des Moines, Ia.
1893. Ross, Solon D., Manhattan, Kan.
1893. Rotzell, Willett Enos, Narberth, Pa.
1882. Rosenberger, Abraham S., Covington, O.
1894. Rowe, Alice Eliza.
1886. Rounsevel, C. Sedgwick, 211 Main Street, Nashua, N. H.
1891. Royal, George, 1234 6th Avenue, Des Moines, Ia.
1890. Rumsey, Charles Leslie, 819 Park Avenue, Baltimore, Md.
1875. Runnels, Moses T., 912 Walnut Street, Kansas City, Mo.
1873. Runnels, O. S., Indianapolis, Ind.
1887. Runnels, Sollis, Indianapolis, Ind.
1865. Rush, R. B., 70 E. Main Street, Salem, O.
1880. Rushmore, Edward, Plainfield, N. J.
1880. Russegue, Henry E., 93 Farmington Avenue, Hartford, Conn.
1892. Russell, H. Everett, 30 E. 74th Street, New York, N. Y.
1890. Russell, Henry A., West Superior, Wis.
1890. Rust, Edwin G., 29 Euclid Avenue, Cleveland, O.
1889. Rutledge, Samuel W., Grand Forks, N. Dak.

1891. Sage, Frederick H., Middletown, Conn.
1892. Sage, Henry P., 35 College Street, New Haven, Conn.
1896. Sage, Norman L., 680 24th Street, Detroit, Mich.
1869. Sage, William H., New Haven, Conn.
1894. Salisbury, Samuel Scott, Bradbury Building, Los Angeles, Cal.
1896. Sanborn, Emma M. E., 4 Morton Street, Andover, Mass.
1860. Sanders, John C., 608 Prospect Street, Cleveland, O.
1884. Sanders, J. Kent, 166 Euclid Avenue, Cleveland, O.
1890. Sanders, Orren B., 370 Columbus Avenue, Boston, Mass.
1859. Sanders, Orren S., 511 Columbus Avenue, Boston, Mass.
1867. Sanford, Charles E., Bridgeport, Conn.
1895. Sanger, Henry Mortimer, 1040 Westminster Street, Providence, R. I.
1871. Sartain, Harriet J., 212 West Logan Square, Philadelphia, Pa.
1867. Sawin, Isaac W., 582 Broadway, Providence, R. I.
1890. Sawtelle, Benj. A., Hollister, Mass.
1893. Sawyer, Charles E., Marion, O.
1889. Sawyer, John Emery, 9th and Roberts Streets, St. Paul, Minn.

1895. Saxton, Arthur W., Jackson, Mich.
1867. Scales, Edward P., Newton, Mass.
1894. Schenck, Herbert Dana, 241 McDonough Street, Brooklyn, N. Y.
1882. Schley, Edward B., Columbus, Ga.
1875. Schley, James Montfort, 1 E. 42d Street, New York, N. Y.
1889. Schmidt, John Alfred, 2502 Archer Avenue, Chicago, Ill.
1894. Schmitz, Elsie R., Milton, Wis.
1892. Schmucker, F. R., 228 N. 5th Street, Reading, Pa.
1894. Schneider, S. Newton, 210 Dearborn Avenue, Chicago, Ill.
1893. Schoonover, William Edward, St. Mary's, O.
1894. Schrader, Charles A., 1071 6th Street, San Diego, Cal.
1881. Schreiner, Emma T., 123 West Chelten Ave., Philadelphia, Pa.
1892. Schulze, Carl Andrew, 49 E. Main St., Columbus, O.
1891. Schumann, Carl, Delhi, N. Y.
1891. Schwenck, Clayton S., 1319 Jefferson Street, Philadelphia, Pa.
1872. Scott, Chester W., Lawrence, Mass.
1895. Scott, Cyrus W., 90 Main Street, Andover, Mass.
1886. Scott, William H., 104 W. 44th Street, New York, N. Y.
1891. Seibert, William A., Easton, Pa.
1869. Seip, C. P., 636 Penn Avenue, Pittsburg, Pa.
1895. Seitz, William Clinton, Glen Rock, Pa.
1893. Sellew, Sylvester Wolcott, 114 Centre Street, Oil City, Pa.
1894. Seward, John Perry, 113 W. 85th Street, New York, N. Y.
1847. Shackford, Rufus, Portland, Me.
1879. Shannon, Samuel F., 1615 Arapahoe Street, Denver, Colo.
1895. Shapleigh, Alfred Lindsay, American Mission, Tientsin, China.
1892. Sharetts, Upton A., Frederick, Md.
1895. Sharpless, Edward S., 1329 N. 12th Street, Philadelphia, Pa.
1894. Shaw, John Cook, 23 S. Sixth Street, New Bedford, Mass.
1895. Shaw, John Joseph, 14 Brewster Street, Plymouth, Mass.
1867. Shearer, Thomas, 345 N. Charles Street, Baltimore, Md.
1890. Shearer, Thomas L., 345 N. Charles Street, Baltimore, Md.
1882. Shears, George F., 3130 Indiana Avenue, Chicago, Ill.
1870. Sheldon, J. W., 402 Warren Street, Syracuse, N. Y.
1893. Shellenberger, Charles Nell, 1831 Wallace Street, Philadelphia, Pa.
1886. Shelton, George G., 521 Madison Avenue, New York, N. Y.
1895. Shepard, George Andrew, 1672 Broadway, New York, N. Y.
1891. Shepard, Jessie, 21 Irving Place, Buffalo, N. Y.
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1894. Shepherd, Lucy M., Henderson, Ky.
1859. Sherman, John H., 531 Broadway, Boston, Mass.
1894. Sherman, Irving Prescott, 114 W. 44th Street, New York, N. Y.
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1889. Sherman, Nancy B., Kalamazoo, Mich.
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1891. Shreve, Joseph, Burlington, N. J.
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1888. Simmons, Silas S., Susquehanna, Pa.
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1893. Smith, Espy L., 974 W. Polk Street, Chicago, Ill.
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1891. Smith, George R., Dover, N. H.
1860. Smith, Henry M., 228 St. Nicholas Avenue, New York, N. Y.
1892. Smith, Hugh Montgomery, 78 Orange Street, Brooklyn, N. Y.
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1889. Smith, Virginia T., 315 Putnam Avenue, Detroit, Mich.
1889. Smith, Wilson A., Walker Avenue, Morgan Park, Ill.
1894. Smith, Winfield Scott, 601 Boylston Street, Boston, Mass.
1894. Smythe, Samuel Scales, cor. California and 17th Streets, Denver, Colo.
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1894. Snow, Henry, Norwood, O.
1887. Snyder, Edward E., Binghamton, N. Y.
1891. Sooy, Walter C., 1913 Pacific Avenue, Atlantic City, N. J.

1893. Soule, Adeline Goodrich, 111 Stephenson Street, Freeport, Ill.
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1871. SOUTHWICK, AUGUSTUS B., 165 W. Dominic Street, Rome, N. Y.
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1893. Spahr, Charles Edward, 110 W. Market Street, York, Pa.
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1891. Townsend, Irving, 67 W. 46th Street, New York, N. Y.
1890. Treat, Charles R., Jr., Sharon, Wis.
1890. Tremaine, Orlando G., 3977 Cottage Grove Avenue, Chicago, Ill.
1896. Triem, Peter E., cor. Main and Madison Streets, Manchester, Ia.
1888. Trotter, Richard R., 189 Warburton Avenue, Yonkers, N. Y.
1895. Troutman, George D., 210 W. Chestnut Street, Louisville, Ky.
1893. Truitt, William John, Naperville, Ill.
1888. Tucker, Genevieve, Pueblo, Col.
1892. Tuller, John J., 529 Landis Avenue, Vineland, N. J.
1894. Turbin, Louis M., 103 State Street, Chicago, Ill.
1896. Turner, Estelle, 616 W. 8th Street, Cincinnati, O.
1892. Turner, Maurice W., 127 Harvard Street, Brookline, Mass.
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1895. Tuttle, Walter, Court Street, Exeter, N. H.
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1881. Tytler, George E., 113 W. 126th Street, New York, N. Y.

1881. Uebelacker, Armin E., 109 South Street, Morristown, N. J.
1891. Ullery, Arthur O., Niles, Mich.
1892. Upham, Ella Prentiss, Asbury Park, N. J.

1889. Van Baun, William W., 1402 Spruce Street, Philadelphia, Pa.
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1889. Van den Borg, Wm. H., Erskine Park, Lenox, Mass.
1895. Vander Burgh, David W., 66 Rock Street, Fall River, Mass.
1891. Van Deusen, Edwin H., 2004 Tioga Street, Philadelphia, Pa.
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1873. Van Norman, E. V., 1071 Sixth Street, San Diego, Cal.
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1891. Ver Nooy, Charles, 148 W. 61th Street, New York, N. Y.
1858. VERDI, TULLIO S., Washington, D. C.
1895. Verges, W. F., 901 Prospect Avenue, Norfolk, Neb.
1889. Vidal, James W., Fargo, N. Dak.
1877. Vilas, Charles H., Central Music Hall, Chicago, Ill.
1891. Vischer, Carl V., 1429 Poplar Street, Philadelphia, Pa.
1891. Vishno, Charles, 19 Olive Street, New Haven, Conn.
1895. Von der Lühe, Amelia D. F., 801 Driggs Avenue, Brooklyn, N. Y.

1889. Wagner, Charles Henry, Faribault, Minn.
1893. Wagner, Philippina, Carson City, Nev.
1895. Wait, Oliver Babcock, 1230 S. 57th Street, Philadelphia, Pa.
1874. Wait, Phœbe J. B., 9th Avenue cor. 34th Street, New York, N. Y.
1883. Walker, Catherine, 180 Richmond Avenue, Buffalo, N. Y.
1895. Walker, Frank Clifford, 108 High Street, Taunton, Mass.
1888. Walker, James M., 1257 Broadway, Denver, Colo.
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1894. Wheelock, Jerome B., 312 15th Street, Moline, Ill.
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1895. Dr. C. S. Kali, L.M.S., Calcutta, India.

Honorary Members.

1876. Dr. P. Jousset, Paris, France.
1876. Dr. R. E. Dudgeon, 53 Montague Square, London, W., England.
1877. Dr. Richard Hughes, Brighton, England.
1892. Dr. Theodore Kafka, Karlsbad, Germany.

Honorary Associate Members.

1879. Mrs. Elizabeth Thompson, New York, N. Y.
1883. Prof. N. B. Wood, Cleveland, O.
1887. Mrs. Emily Talbot, Hotel Cluny, Boston, Mass.
1893. Madame Olga Bojanus, Samara, Russia.

List of Members Classified by States.

Alabama.

1892. Ballard, Asa N., 2006 2d Avenue, Birmingham.
1892. Duffield, Alfred M., 307 Clinton Street, Huntsville.

Alaska.

1891. Wilbur, Bertrand K., Sitka.

Arizona.

1896. Woodruff, Wm. L., N. W. cor. 2d Avenue and Jefferson Street, Phenix.

Arkansas.

1894. Brooks, Ida Josephine, 219 E. 10th Street, Little Rock.
1891. Daily, John C., 117 E. Jefferson Street, Fort Smith.
1881. Dake, Charles, Hot Springs.
1887. Dake, Frank B., Hot Springs.
1882. Green, William E., Little Rock.
1896. Hallman, Victor H., 606½ Central Avenue, Hot Springs.
1867. Mason, J. R., Devall's Bluff.
1893. Regan, M. R., Eureka Springs.
1892. Williams, Perry C., Texarkana.

Australia.

1882. Ray, William R., 52 Collins Street, Melbourne.

California.

1867. Albertson, J. A., 119 Powell Street, San Francisco.
1882. Arndt, Hugo R., 951 6th Street, San Diego.
1883. Ballard, Laura A. S., 610 Hyde Street, San Francisco.
1869. Bishop, Herbert M., 436 Bradbury Building, Los Angeles.
1883. Boericke, William, 1812 Washington Street, San Francisco.
1895. Bryant, Edgar Reeve, 522 Sutter Street, San Francisco.
1894. Campbell, Eugene, Spring and 2d Streets, Los Angeles.
1874. Campbell, Merritt B., San Bernardino.
1895. Campbell, Robert Alexander, Pasadena.
1894. Canney, Frederick G., 606 Sutter Street, San Francisco.
1889. Chamberlin, Myron H., Monrovia.
1894. Clarke, Elmer A., 595 S. Spring Street, Los Angeles.
1867. Currier, C. B., 921½ Geary Street, San Francisco.
1893. Davis, George Eugene, 520 Sutter Street, San Francisco.
1869. De Derkey, F. F., 311 W. 3d Street, Los Angeles.
1887. Docking, Thomas, 164 Boston Avenue, San Diego.

1891. Dolan, A. Stanley, San Bernardino.
1876. Eckel, John N., 324 Geary Street, San Francisco.
1893. Ford, Francis C., 545 S. Euclid Avenue, Pasadena.
1894. Freeman, Roscoe E., Los Gatos.
1875. French, Hayes C., 114 Geary Street, San Francisco.
1857. HATCH, PHILO L., 1901 San Pascual Street, Santa Barbara.
1867. HILL, ROBERT L., 564 14th Street, Oakland.
1889. Howe, Willella, Santa Anna.
1876. Johnson, Maria N., 823 Sutter Street, San Francisco.
1892. Johnson, Thaddeus L., Pomona.
1893. Keith, William E., San José.
1890. Kirkpatrick, John C., 328 W. 3d Street, Los Angeles.
1888. Lee, Sarah Idella. 836 Sutter St., San Francisco.
1887. Macomber, H. K., Pasadena.
1893. Martin, Eleanor Frances, 921 Polk Street, San Francisco.
1889. Martin, George H., 921 Polk Street, San Francisco.
1867. PRATT, LEONARD, 520 N. 2d Street, San José.
1843. RAYMOND, JONAS C., 626 13th Street, Oakland.
1894. Salisbury, Samuel Scott, Bradbury Building, Los Angeles.
1894. Schrader, Charles A., 1071 6th Street, San Diego.
1894. Simpson, William, 142 N. 3d Street, San José.
1892. Stratton, Wallace C., 2255 Mission Street, San Francisco.
1873. Van Norman, E. V., 1071 6th Street, San Diego.
1889. Ward, Florence N. Saltonstall, 606 Sutter Street, San Francisco.
1883. Ward, James W., 606 Sutter Street, San Francisco.
1891. Watts, Pliny R., 1222 10th Street, Sacramento.
1894. Wayland, Charles A., Porter Building, San José.
1888. Wheeler, Amsden E., 2512 S. Main Street, Los Angeles.
1873. Wilson, M. T., 924 Ellis Street, San Francisco.
1872. Worcester, Samuel, 262 S. Broadway, Los Angeles.

Canada.

1896. Anderson, Jeremiah N., 5 College Street, Toronto.
1891. Clark, Charles W., Winnipeg, Manitoba.
1895. Griffith, Alexander Randall, 535 Wellington Street, Montreal.
1895. Patton, Hugh Mathewson, 125 Mansfield Street, Montreal.
1896. Sinclair, Duncan J , 450 Dunnas Street, Woodstock, Ontario.

Chili, S. A.

1889. Hoover, Willis C., Iquique.

China.

1895. Shapleigh, Alfred L., Tientsin, care of American Missions.

Colorado.

1893. Allen, W. Carey, Colorado Springs.
1893. Anderson, John Wylie, 1617 Steele Block, Denver.
1894. Brace, Charles C., 1430 Stout Street, Denver.

1889. Burnham, Norman G., Denver.
1893. Burr, William Alton, 2010 Welton Street, Denver.
1891. Clark, Edwin J., Longmont.
1886. Cooke, Persifor Marsden, 1290 Race Street, Denver.
1894. Couden, William Chase, California Building. Denver.
1892. Darby, Edward A., Cañon City.
1892. Darby Margaret G., Cañon City.
1894. Dodge, Horace Tennent, Denver.
1894. Enos, Charles W., Denver.
1894. Hart, Charles V., Barth Block, Denver.
1894. Hoag, Sanford, 523 22d Street, Denver.
1894. Irvine, Joseph Clinton, Steele Block, Denver.
1891. Jones, A. Cuvier, Colorado Springs.
1892. Kehr, S. S., California Building, Denver.
1870. King, E. H., 906 N. 15th Street, Denver.
1891. Kinley, Joseph B., 1406 Champa Street, Denver.
1894. Lawrence, George W., Colorado Springs.
1894. Morris, Norman K., 1430 Stout Street, Denver.
1894. Morse, John Newton, Alma.
1894. Mulford, Clarence H., Greeley.
1894. Nye, James D., 1443 Champa Street, Denver.
1894. Peck, Grant S., 708 14th Street, Denver.
1879. Shannon, Samuel F., 1615 Arapahoe Street, Denver.
1894. Smythe, Samuel Scales, cor. California and 17th Streets, Denver.
1880. Storke, Eugene F., 207 Mack Block, Denver.
1889. Strickler, D. A., 705 14th Street, Denver.
1888. Tucker, Genevieve, Pueblo.
1888. Walker, James M., 1257 Broadway, Denver.

Connecticut.

1886. Adams, C. B., 175 Grand Avenue, New Haven.
1881. Allen, Albion H., New London.
1888. Barber, Oscar M., Mystic Bridge.
1891. Beebe, William B., Bridgeport.
1881. Case, Erastus E., 109 Ann Street, Hartford.
1870. Cheney, Benjamin H., 45 Elm Street, New Haven.
1892. Colgrove, Charles H., Willimantic.
1891. Givens, Amos J., Stamford.
1874. Gregory, Edward P., 358 State Street, Bridgeport.
1891. Hinckley, Walter F., 343 Grand Street, Waterbury.
1873. Hitchcock, Dexter, Norwalk.
1879. Hoag, Clitus S., 321 Lafayette Street, Bridgeport.
1885. Hooker, Edward B., 253 Main Street, Hartford.
1888. Humphrey, Frank M., South Windham.
1887. Jewett, Joseph Waldo, New Haven.
1891. Keeler, Charles B., New Canaan.
1885. Linnell, E H., 61 Broadway, Norwich.
1886. Pardee, Emily V. D., South Norwalk.

1891. Peltier, Pierre D., 382 Main Street, Hartford.
1877. Penfield, Sophia, Danbury.
1867. PHILLIPS, ALBERT WILLIAM, Birmingham.
1888. Pulford, Alfred, Ansonia.
1895. Pulver, Hudson Josiah, 203 Main Street, Torrington.
1881. Rockwell, John A., Norwich.
1849. RODMAN, WILLIAM V., New Haven.
1880. Russegue, Henry E., 93 Farmington Avenue, Hartford.
1891. Sage, Frederick H., Middletown.
1892. Sage, Henry P., 35 College Street, New Haven.
1869. SAGE, WILLIAM H., New Haven.
1867. SANFORD, CHARLES E., Bridgeport.
1891. Stark, Clinton E., Norwich.
1892. Styles, Elmer S., New Britain.
1881. Vishno, Charles, 19 Olive Street, New Haven.
1895. Williams, Carl A., 24 Washington Street, New Londen.
1859. WILSON, GROVE H., Meriden.

Delaware.

1891. Cooper, Peter, 918 West Street, Wilmington.
1892. Flinn, Irvine M., 409 W. 8th Street, Wilmington.
1891. Flinn, Lewis W., 510 W. 9th Street, Wilmington.
1892. Hoey, William F., Frederica.
1869. KITTINGER, LEONARD, 724 King Street, Wilmington.
1886. Kittinger, Leonard Armour, 724 King Street, Wilmington.
1867. NEGENDANK, AUGUSTUS, 1112 Washington Street, Wilmington.
1891. Negendank, Egmont T., 1112 Washington Street, Wilmington.

District of Columbia.

1880. Allen, Charles, 1320 G Street, N. W., Washington.
1891. Babbitt, Zeno B., 810 11th St., N. W., Washington.
1871. Baldwin, Aaron, 1205 11th Street, N. W., Washington.
1895. Branson, J. H., Homœopathic Hospital, Washington.
1886. Burritt, Alice, 1129 14th Street, Washington.
1892. Cameron, Malcolm, 1027 22d Street, N. W., Washington.
1891. Choate, Rufus, 3267 O Street, Washington.
1889. Custis, George W. N., 112 E. Capitol Street, Washington.
1879. Custis, J. B. G., 110 E. Capitol Street, Washington.
1892. Custis, Marvin A., 631 E. Capitol Street, Washington.
1890. Dennison, Ira Warren, 1326 L Street, N. W., Washington.
1872. Edson, Susan A., 1308 I Street, N. W., Washington.
1886. Freer, James A., 1523 I Street, N. W., Washington.
1884. Gardner, Franklin A., 1016 14th Street, N. W., Washington.
1888. Gilbert, Charles B., 1403 H Street, N. W., Washington.
1894. Harrison, Julia C., "The Cairo," Washington.
1896. Hauxhurst, Howard H., 1338 L Street, N. W., Washington.
1891. Heron, William H., 1016 9th Street, N. W., Washington.

1891. Hislop, Margaret, 313 M Street, N. W., Washington.
1891. Janney, Edgar, 12 Iowa Circle, N. W., Washington.
1891. Jenkins, Ralph, 1732 Massachusetts Avenue, N. W., Washington.
1888. King, William R., 1422 K Street, N. W., Washington.
1891. Kingsman, Richard, 701 E. Capitol Street, Washington.
1888. Krogstad, Henry, 915 16th Street, N. W., Washington.
1891. MacDonald, Thomas L., 1402 Massachusetts Avenue, Washington.
1885. Mellus, Edward Lyndon.
1892. Moffitt, Melvin M., 127 B Street, S. E., Washington.
1896. O'Brien, Emilie Young, 1307 N Street, N. W., Washington.
1895. Pearman, Sylvan, 633 E. Capitol Street, Washington.
1876. Pope, Gustavus W, 1109 14th Street, N. W., Washington.
1896. Rauterberg, Arthur C., 510 5th Street, N. W., Washington.
1891. Rauterberg, Lewis E., 510 5th Street, N. W., Washington.
1887. Riggs, D. H., 1410 11th Street, N. W., Washington.
1891. Roberts, Grace, 1109 K Street, N. W., Washington.
1896. Stearns, John S., 1425 Rhode Island Avenue, Washington.
1891. Stearns, Solomon S., 1425 Rhode Island Avenue, N. W., Washington.
1896. Swartworth, F. A., 209 9th Street, S. W., Washington.
1891. Swormstedt, Lyman B., 1455 14th Street, N. W., Washington.

Florida.

1888. Bruce, Orpha D. B., 1302 Florida Avenue, Tampa.
1892. Graham, Walter S., Titusville.
1882. Stout, Henry R., Jacksonville.
1894. Williamson, A. C., De Land.

Georgia.

1885. Hicks, Susan M., "The Grand," Atlanta.
1885. Lawshè, John Z., 116½ Peachtree Street, Atlanta.
1873. Lukens, M. B., Dalton.
1883. Manahan, Manning W., Atlanta.
1872. Morse, Lucius D., P. O. Box 584, Atlanta.
1859. Orme, Francis H., 70 N. Forsyth Street, Atlanta.
1890. Paine, Clarence M., 67 N. Forsyth Street, Atlanta.
1850. Paine, H. M., 67 N. Forsyth Street, Atlanta.
1882. Schley, Edward B., Columbus.

Illinois.

1896. Adams, Charles, Central Music Hall, Chicago.
1872. Allen, Henry C., 5142 Washington Avenue, Chicago.
1890. Andrews, Sarah W., 325 Bowen Avenue, Chicago.
1892. Armstrong, Wilber P., Springfield.
1890. Arnulphy, Bernard S., 5223 Jefferson Avenue, Hyde Park, Chicago.
1889. Bailey, E. Stillman, 3034 Michigan Avenue, Chicago.
1881. Barker, Clarence F., Ellis Avenue and Oakwood Boulevard, Chicago.

1889. Bascom, Henry M., 727 Columbus Street, Ottawa.
1893. Bassett, Charles F., 20 Aldine Square, Chicago.
1894. Beaumont, John F., 100 State Street, Chicago.
1892. Bergman, Nils, Dwight.
1893. Bernard, Charles C., 954 N. Halsted Street, Chicago.
1891. Blackman, Orville B., Dixon.
1893. Blackwood, Alexander L., 9151 Commercial Avenue, Chicago.
1894. Blouke, Milton Baker, 1222 W. Washington Street, Chicago.
1893. Bowerman, Martha A., 3948 Cottage Grove Avenue, Chicago.
1873. Buffum, J. H., 34 Washington Street, Chicago.
1893. Burt, Wm. F., 714 W. Monroe Street, Chicago.
1873. Canfield, Corresta T., 269 Lincoln Avenue, Chicago.
1871. Chase, Maurice J., Galesburg.
1890. Chislett, Howard Roy, 3034 Michigan Avenue, Chicago.
1896. Clapp, Katherine B., 6222 Woodlawn Avenue, Chicago.
1890. Cobb, Joseph P., 3156 Indiana Avenue, Chicago.
1894. Colwell, Charles Estabrook, 23 S. Lake Street, Aurora.
1892. Costain, Thomas E., Pratt Sanitarium, Chicago.
1890. Coutant, George F., La Salle.
1875. Cowperthwaite, Allen C., 31 Washington Street, Chicago.
1883. Crawford, Alexander K., 100 State Street, Chicago.
1893. Crutcher, Howard, 103 State Street, Chicago.
1894. Davis, Franklin S., 109 Perry Street, Peoria.
1894. Davison, William M. W., 1343 W. Lake Street, Chicago.
1891. Day, Leonidas A. L., 103 State Street, Chicago.
1894. Delamater, Nicholas B., 31 Washington Street, Chicago.
1882. Downey, F. Edgar, Clinton.
1893. Downs, James N., 724 Columbus Street, Ottawa.
1866. Duncan, T. C., 100 State Street, Chicago.
1891. Dunn, Charles N., 200 Broadway, Centralia.
1895. Dunn, Helen S., Biray and Poplar Streets, Centralia.
1890. Dunn, Wesley A., 31 Washington Street, Chicago.
1894. Ebersole, Joseph R., Monmouth.
1892. Ely, Charles F., 34 Washington Street, Chicago.
1893. Estabrooke, William Wilmot, Jerseyville.
1892. Estep, Charles S., Lexington.
1893. Evans, Charles Horace, 730 Warren Avenue, Chicago.
1892. Everett, Frederick, 402 Centre Street, Chicago.
1890. Fellows, C. Gurnee, 70 State Street, Chicago.
1867. Fellows, H. Barton, 2969 Indiana Avenue, Chicago.
1873. Fisher, Charles E., 31 Washington Street, Chicago.
1892. Foster, Frederick H., 34 Washington Street, Chicago.
1880. Foster, Richard N., 553 Jackson Boulevard, Chicago.
1889. Franklin, William A., Harvey.
1894. French, Malachi R., 44 Madison Street, Chicago.
1885. Fuller, Charles G., 39 Central Music Hall, Chicago.
1889. Gatchell, Charles, 162 30th Street, Chicago.
1880. Gentry, William D., Rogers Park, Chicago.

1896. George, Edgar J., Washington Street, Chicago.
1890. Gordon, F. W., Sterling.
1890. Gould, William W., Rochelle.
1892. Graves, Kate I., 5663 Washington Avenue, Chicago.
1893. Gray, Thomas J., Chicago.
1870. Grosvenor, Lemuel C., 185 Lincoln Avenue, Chicago.
1889. Grosvenor, Lorenzo N., 756 Kenmore Avenue, Chicago.
1895. Grosvenor, Wallace Fahnestock, 185 Lincoln Avenue, Chicago.
1883. Gross, James Eldredge, 95 Wabash Avenue, Chicago.
1887. Halbert, Homer V., 70 State Street, Chicago.
1865. HALE, EDWIN M., 65 22d Street, Chicago.
1891. Hall, Amos C., 1273 E. 75th Street, Chicago.
1893. Hallett, Joseph, Bloomington.
1893. Halsted, Milton A., Jacksonville.
1892. Hannah, Helen M., 3030 Prairie Avenue, Chicago.
1892. Hattan, Albert H., Peru.
1879. Hawkes, William J., 100 State Street, Chicago.
1890. Hedges, Albert P., 1383 N. Clark Street, Chicago.
1891. Hedges, Le Roy C., Ravenswood, Chicago.
1868. HEDGES, S. P., Central Music Hall, Chicago.
1893. Heffron, Helen M., Washington Heights.
1895. Hendy, Clara A., Oak Park, Cook County.
1893. Herrick, E. L., Hebron.
1891. Hetherington, Judson Egbert, 1035 Warren Avenue, Chicago.
1893. Hinman, Albert W., 720 W. Washington Street, Chicago.
1892. Holbrook, Francis D., 100 State Street, Chicago.
1893. Honberger, Frank Henry, 3808 Indiana Avenue, Chicago.
1894. Hood, C. Todd, 31 Washington Street, Chicago.
1896. Kahlke, Charles E., 3034 Michigan Avenue, Chicago.
1893. Karst, F. August, 636 Sedgwick Street, Chicago.
1894. Kenyon, Frances Aureola, 487 E. 42d Street, Chicago.
1896. Kerch, Harry E., Dundee.
1894. Kerr, Harlan T., 105 Perry Street, Peoria.
1880. Kinyon, Claudius B., 3d Avenue and 16th Street, Rock Island.
1870. KIPPAX, JOHN R., 3154 Indiana Avenue, Chicago.
1882. Leavitt, Sheldon, 148 37th Street, Chicago.
1893. LeRoy, Elmore W., 207 S. Clark Street, Chicago.
1893. Llewellyn, Henry S., N. E. cor. 5th and Harris Avenues, La Grange.
1893. Loelkes, George, 202 S. Jackson Street, Belleville.
1885. Lowenthal, Louis, 1405 W. 103d Street, Chicago.
1857. LUDLAM, REUBEN, 1823 Michigan Avenue, Chicago.
1887. Ludlam, Reuben, Jr., 1823 Michigan Avenue, Chicago.
1895. Maas, Elizabeth C., 129 N. Main Street, Rockford.
1893. MacCracken, Mary E. Avery, 4327 Greenwood Avenue, Chicago.
1890. MacCracken, William P., 4327 Greenwood Avenue, Chicago.
1890. Mack, Charles S., 320 E. 57th Street, Chicago.
1895. McCullock, Carleton B., Cook County Hospital, Chicago.
1893. McGill, James Palmer, 4310 Cottage Grove Avenue, Chicago.

1896. McIntyer, Edwin R., 386 N. Clark Street, Chicago.
1889. McKinney, Samuel P., 829 Warren Avenue, Chicago.
1892. Mansfield, Joshua M., 632 Main Street, Quincy.
1896. Mitchell, Clifford, 70 State Street, Chicago.
1866. Mitchell, J. S., 2954 Prairie Avenue, Chicago.
1893. Mordoff, Charles H., Genoa.
1890. Myers, Priscilla G., Aurora.
1893. Neiberger, William Emory, 402 W. Jefferson Street, Bloomington.
1890. Newell, R. C., 70 State Street, Chicago.
1893. Nielsen, Theodore, 395 W. Chicago Avenue, Chicago.
1895. Noyes, Henry A., Mount Carroll.
1893. Owen, Charles S., Wheaton.
1891. Parker, James W., Warsaw.
1893. Pierson, Herman W., 6600 Yale Street, Chicago.
1890. Poppele, Charles F., Mt. Pulaski.
1874. Pratt, E. H., 100 State Street, Chicago.
1889. Primm, John W., Woodstock.
1886. Printy, James Anthony, 598 Lincoln Avenue, Chicago.
1893. Reininger, Edward E., 353 S. Oakley Street, Chicago.
1893. Replogle, Peter S., Champaign.
1892. Rice, Marvin S., Aurora.
1893. Rich, Frederick W., Riverside.
1886. Richards, George E., Central Music Hall, Chicago.
1890. Roberts, Susan A., Lemont.
1889. Roberts, Thomas Elmer, 144 S. Oak Park Avenue, Chicago.
1891. Rogers, L. D., 441 Dearborn Avenue, Chicago.
1889. Schmidt, John Alfred, 2502 Archer Avenue, Chicago.
1894. Schneider, S. Newton, 210 Dearborn Avenue, Chicago.
1882. Shears, George F., 3130 Indiana Avenue, Chicago.
1889. Shepard, William A., Elgin.
1889. Skiles, Hugh P., 963 W. Monroe Street, Chicago.
1893. Smith, Espy L., 974 W. Polk Street, Chicago.
1882. Smith, Julia Holmes, 499 Dearborn Avenue, Chicago.
1885. Smith, Norman Pitt, Paris.
1893. Smith, Orrin L., 47th Street and Greenwood Avenue, Chicago.
1889. Smith, Wilson A., Walker Avenue, Morgan Park.
1893. Soule, Adeline Goodrich, 111 Stephenson Street, Freeport.
1893. Soule, Isaac C., 111 Stephenson Street, Freeport.
1895. Stafford, Walter W., 2359 Indiana Avenue, Chicago.
1892. Stearns, William M., 34 Washington Street, Chicago.
1891. Stettler, Cornelia S., 181 Dearborn Avenue, Chicago.
1892. Straub, Effie Therese, 922 N. Clarke Street, Chicago.
1869. Streeter, John W., 2001 Prairie Avenue, Chicago.
1890. Sturtevant, Myron C., Morris.
1895. Swan, Charles J., 34 Washington Street, Chicago.
1887. Thome, Arthur G., 239 Lincoln Avenue, Chicago.
1890. Thompson, Jay J., 707 Marshal Field Building, Chicago.
1891. Thompson, Mark M., 805 W. Monroe Street, Chicago.

1879. Tooker, Robert N., 263 Dearborn Avenue, Chicago.
1890. Tremaine, Orlando G., 3977 Cottage Grove Avenue, Chicago.
1893. Truitt, William John, Naperville.
1894. Turbin, Louis M., 103 State Street, Chicago.
1893. Vaughan, Elmer E., 31 Washington Street, Chicago.
1877. Vilas, C. H., Central Music Hall, Chicago.
1894. Washburn, George W., 545 Jackson Boulevard, Chicago.
1893. Watry, Joseph, Central Music Hall, Chicago.
1891. Weirick, Clement A., 100 State Street, Chicago.
1889. Welker, J. Wesley, Washington.
1894. Wheelock, Annette H., 312 15th Street, Moline.
1894. Wheelock, Jerome B., 312 15th Street, Moline.
1882. Whipple, Alfred A., 637 Main Street, Quincy.
1893. White, William Seymour, 70 State Street, Chicago.
1890. Whitman, Frank S., Belvidere.
1885. Wilcox, Mrs. H. Tyler, 155 Dearborn Street, Chicago.
1893. Willard, William G., 544 Washington Boulevard, Chicago.
1889. Williams, Edwin C., 4405 Ellis Avenue, Chicago.
1893. Wood, John D., Morgan Park, Chicago.
1870. Woodbury, William H., 22 Central Music Hall, Chicago.
1870. Woodward, Alfred W., 130 Ashland Avenue, Chicago.

Indiana.

1895. Adams, H. Alden, 21 West Ohio Street, Indianapolis.
1891. Baker, Frank W., 50 W. Mulberry Street, Kokomo.
1869. Bowen, G. W., 232 E. Washington Street, Fort Wayne.
1873. Breyfogle, W. L., New Albany.
1893. Chaffee, Jerome C., Kentland.
1869. Compton, J. Augustine, Indianapolis.
1875. Davis, Fielding L., Evansville.
1894. Erni, G. Oscar, 214 E. Spring Street, New Albany.
1873. Fisher, A. Leroy, 315 Pigeon Street, Elkhart.
1893. Gibbs, James C., Crown Point.
1865. Haynes, J. R., 262 N. Illinois Street, Indianapolis.
1896. Hoag, James H., Oxford.
1896. Kreider, Martin K., Goshen.
1893. Martin, Francis V., Westville.
1895. Myers, Cornelius H., 305 Washington Street, South Bend.
1894. Rogers, Rebecca W., 19 Marion Block, Indianapolis.
1873. Runnels, O. S., Indianapolis.
1887. Runnels, Sollis, Indianapolis.
1892. Shoemaker, George L., Nappanee.
1891. Stewart, F. Corwin, 90 N. Meridian Street, Indianapolis.
1891. Stewart, John W. G., Wabash.
1893. Stewart, Willis Benton, Peru.
1893. Stewart, W. R., Wabash.
1892. Stutz, J. A., Fort Wayne.

1882. Taylor, Theodore H., Evansville.
1873. Waters, M. H., 613 Mulberry Street, Terre Haute.

Iowa.

1868. Bancroft, Walton, Keokuk.
1892. Barrett, James W., Osage.
1889. Becker, Frederick, Clermont.
1889. Becker, Frederick J., Postville.
1867. Bell, James S., Rock Valley.
1894. Blunt, Arthur W., 323 5th Avenue, Clinton.
1889. Bray, Nicholas, 1140 Main Street, Dubuque.
1892. Brooks, Caroline Frances, Independence.
1889. Burns, Judson D., Grundy Centre.
1866. Cogswell, C. H., 65 2d Avenue, Cedar Rapids.
1895. Drake, Franklin Joseph, Webster City.
1895. Drake, Joseph H., 706 W. 4th Street, Des Moines.
1893. Duncan, Sarah B., 104 29th Street, Fayette.
1891. Eaton, Charles W., 420 Walnut Street, Des Moines.
1894. Gilchrist, James Grant, 215 College Street, Iowa City.
1893. Gordon, Oliver W., 1703 Graham Avenue, Council Bluffs.
1889. Hanchett, Alfred P., Council Bluffs.
1891. Hanchett, John L., 601 Jackson Street, Sioux City.
1889. Harris, Nellie R., Des Moines.
1884. Hazard, Theodore Lincoln, 12 N. Clinton Street, Iowa City.
1876. Hindman, David R., Marion.
1894. Hoyt, Lucius F., Jefferson.
1896. Hoyt, Mary O., 26 North 4th Street, Keokuk.
1876. Jackson, Edward R., Dubuque.
1894. King, Sylvester M., Albia.
1887. Linn, A. M., 605 Walnut Street, Des Moines.
1893. Linn, Ellis Gregg, Mount Pleasant.
1895. Martin, George Albert, Boone, Boone Co.
1894. Montgomery, Phineas J., 217 4th Street, Council Bluffs.
1893. Myers, Amos J., Creston.
1892. Newberry, Frank J., 12 N. Clinton Street, Iowa City.
1893. Patterson, H. S., Elkader.
1894. Robilliard, Walter H., Liscomb.
1895. Ross, Alice Idella, 1234 6th Street, Des Moines.
1891. Royal, George, 1234 6th Avenue, Des Moines.
1890. Smith, Sarah, Council Bluffs.
1882. Spreng, T. F. H., Sioux City.
1891. Strawbridge, Frank A., Sigourney.
1896. Triem, Peter E., cor. Main and Madison Streets, Manchester.

Kansas.

1893. Anderson, G. Hamlin, Seneca.
1868. Barrows, George S., Marion.
1896. Blanke, Theo. F., Great Bend.
1893. Boardman, E. W., 115 Central Avenue, Parsons.
1877. Branstrup, William T., 222 W. 6th Street, Topeka.

1891. Brown, Manuel J., Salina.
1894. Cunningham, Eva Alice, 817 New Hampshire Street, Lawrence.
1890. Diederich, Peter, 518 Minnesota Avenue, Kansas City.
1894. Dunlap, Frank, Osawatomie.
1894. Gardner, Henry Seth, Lawrence.
1893. Holland, Joseph H., Argentine.
1896. Huss, John R., Eureka.
1876. Johnson, George H. T., Atchison.
1893. Light, Jacob Wilbert, Kingman.
1894. McIntosh, James W., Republic City.
1894. Menninger, Chas. Frederick, 727 Kansas Avenue, Topeka.
1892. Minnick, W. A., Wichita.
1893. Raines, Taylor E., 6th and Broadway, Concordia.
1889. Roby, Henry W., Topeka.
1893. Ross, Solon D., Manhattan.
1894. Stewart, Mary E., Topeka.
1893. Worthen, Lewis J., Paola.

Kentucky.

1893. Bayless, Herman G., 431 4th Avenue, Louisville.
1895. Bryan, Joseph Temple, Shelbyville.
1893. Clokey, Allison A., 2d and Chestnut Streets, Louisville.
1893. Combs, James T., Campbellsburg.
1895. Coon, George S., 617 4th Street, Louisville.
1887. Dills, Malcolm. Carlisle.
1893. Fischback, F. W., Newport.
1880. Given, Adam, 1403 W. Jefferson Street, Louisville.
1894. Higbee, Frank O., City Hospital, Louisville.
1893. Johns, Emory B., 24 E. 2d Street, Lexington.
1892. Kasselman, Harry C., Midway.
1887. Millsop, Sarah J., Bowling Green.
1890. Monroe, Andrew L., Louisville.
1892. Mullins, Will S., 408 First Street, Henderson.
1896. Reid, Robert G., Fonda Block, Louisville.
1894. Shepherd, Lucy M., Henderson.
1895. Troutman, George D., 210 W. Chestnut Street, Louisville.
1892. Washburne, Julia, Lexington.
1893. Welch, Thomas R., Nicholasville.

Louisiana.

1892. Aiken, John G., 1102 St. Charles Avenue, New Orleans.
1891. Mayer, Charles R., 1032 St. Charles Avenue, New Orleans.

Maine.

1869. Briry, Milton S., Bath.
1894. Cushman, Mary Floyd, Main Street, Castina.
1895. Emery, John Taylor Gilman, 27 Main Street, Waterborough.
1894. Esmond, Henry B., 14 Market Square, Houlton.
1892. Fellows, William Edwin, 134 Hammond Street, Bangor.

1869. Flanders, David P., Belfast.
1891. Gannett, James C., Yarmouth.
1869. Graves, S. P., Saco.
1891. Hanscom, Walter V., Rockland.
1892. Hill, W. Scott, 154 State Street, Augusta.
1859. Jefferds, George P., Bangor.
1893. Johnson, Cora May, Skowhegan.
1888. Knox, Joseph H., 11 College Avenue, Waterville.
1895. Paul, C. Almon, Solon.
1892. Prilay, John M., 4 Somerset Street, Bangor.
1847. Shackford, Rufus, Portland.
1896. Stewart, Lincoln A., Brooksville.
1891. Thompson, W. S., 58 State Street, Augusta.
1876. Williams, Nancy T., Winthrop Court, Augusta.

Maryland.

1892. Andrews, William R., Rockville.
1891. Barnard, James S., 2111 St. Paul Street, Baltimore.
1891. Brewster, Cora B., 1027 Madison Avenue, Baltimore.
1891. Brewster, Flora A., 1221 Madison Avenue, Baltimore.
1895. Burck, Lewis A., 17 E. 2d Street, Frederick.
1891. Chandlee, Henry, 1019 Linden Avenue, Baltimore.
1883. Cole, Ezra Z., 1516 Mt. Royal Avenue, Baltimore.
1892. Colley, Robert K., Sudlersville.
1892. Dodd, Harry L., Chestertown.
1892. Evans, Henry J., Fayette and Carey Streets, Baltimore.
1891. Garey, Henry F., 411 N. Charles Street, Baltimore.
1892. Goodell, Charles F., 15 N. Market Street, Frederick.
1852. Hammond, Milton, 310 N. Paca Street, Baltimore.
1891. Janney, O. Edward, 837 N. Eutaw Street, Baltimore.
1871. Kneass, Nicholas W., 607 N. Charles Street, Baltimore.
1892. Mark, Ella V., 717 Madison Avenue, Baltimore.
1891. Mifflin, Robert W., 402 Cathedral Street, Baltimore.
1884. Morgan, William L., 202 W. Franklin Street, Baltimore.
1892. Nichols, Clarence, 1439 E. Eager Street, Baltimore.
1896. Parkhurst, Alice S., 1410 Park Avenue, Baltimore.
1891. Price, Eldridge C., 1012 Madison Avenue, Baltimore.
1867. Price, Elias C., 1012 Madison Avenue, Baltimore.
1890. Rumsey, Charles Leslie, 819 Park Avenue, Baltimore.
1892. Sharetts, Upton A., Frederick.
1867. Shearer. Thomas, 345 N. Charles Street, Baltimore.
1890. Shearer, Thomas L., 345 N. Charles Street, Baltimore.
1892. Stauffer, Alvin P., Hagerstown.
1891. Thomas, Charles H., 10 E. Preston Street, Baltimore.
1883. Wanstall, Alfred, 921 Cathedral Street, Baltimore.
1892. Webner, Henry W., 723 W. Lombard Street, Baltimore.
1895. Wisner, Jacob Ward, 2111 St. Paul Street, Baltimore.
1891. Wright, George H., Forest Glen.

Massachusetts.

1894. Abbott, Charles Sewell, 130 Huntington Avenue, Boston.
1895. Adams, G. Francis, Westboro.
1887. Adams, George Smith, Westboro.
1895. Allard, Frank Ellsworth, 39 Hancock Street, Boston.
1887. Allen, Lamson, Worcester.
1853. ANGELL, HENRY C., 16 Beacon Street, Boston.
1885. Babcock, D. A., Fall River.
1892. Babcock, Francis L., 15 Walnut Street, Dedham.
1892. Barstow, Benjamin P., Kingston.
1892. Barton, J. Marcus, Worcester.
1892. Batchelder, Frederick P., 232 Massachusetts Avenue, Boston.
1892. Batchelder, Henry F., 18 Locust Street, Danvers.
1868. BELL, JAMES B., 178 Commonwealth Avenue, Boston.
1877. Bellows, Howard P., cor. Boylston and Berkeley Streets, Boston.
1872. Bender, Prosper, Exeter Chambers, Boston.
1889. Bennett, William Henry, Fitchburg.
1888. Bennitt, Francis M., Chicopee.
1891. Bingham, Russell, 62 Day Street, Fitchburg.
1887. Blodgett, S. H., 1131 Massachusetts Avenue, Cambridge.
1869. BOOTHBY, ALONZO, 1061 Beacon Street, Brookline.
1890. Bothfeld, James F., 455 Centre Street, Newton.
1895. Boyd, Herbert D., 370 Columbus Avenue, Boston.
1895. Bray, Amanda C., 4 Wellington Street, Worcester.
1893. Briggs, Joseph Emmons, 240 Massachusetts Avenue, Boston.
1896. Brown, Plumb, Jr., 503 State Street, Springfield.
1892. Cahill, Eliza B., N. E. Conservatory of Music, Boston.
1895. Calderwood, Samuel Herbert, 2512 Washington Street, Boston.
1883. Carmichael, John H., 41 Maple Street, Springfield.
1882. Carvill, Alphonso H., Somerville.
1891. Chalmers, Robert, 47 Pleasant Street, Woburn.
1876. Chase, Herbert A., 950 Massachusetts Avenue, Cambridgeport.
1847. CHASE, HIRAM L., 924 Massachusetts Avenue, Cambridgeport.
1895. Chase, Joseph, Jr., East Weymouth.
1895. Childs, Helen S., 454 Centre Street, Jamaica Plain, Boston.
1891. Church, Adaline B., 102 Huntingdon Avenue, Boston.
1881. Clapp, J. Wilkinson, cor. St. Paul and Francis Streets, Brookline.
1888. Clarke, Henry L., Wellesley Hills.
1895. Clarke, Mortimer Hall, 221 Auburn Street, Auburndale.
1894. Cocke, James R., 224 Marlborough Street, Boston.
1895. Coffin, John Lambert, 229 Berkeley Street, Boston.
1886. Colby, Edwin A., Gardner.
1890. Colby, Edward Porter, cor. Berkeley and Boylston Streets, Boston.
1895. Coleman, E. B., Centre Street, Nantucket.
1876. Conant, Thomas, Gloucester.
1896. Crisand, Carl, 2 Charlotte Street, Worcester.
1869. CROSS, HIRAM B., 21 Seavern's Avenue, Jamaica Plain, Boston.
1886. Culver, Mrs. Jane Kendrick, 13 Arlington Street, Boston.

1881. Cummings, M. Louisa, 6 Somerset Street, Boston.
1867. Cushing, Alvin M., 175 State Street, Springfield.
1859. Cutler, William C., 10 Everett Avenue, Chelsea.
1895. Damon, Newcomb Lincoln, 405 Washington Street, Dorchester.
1895. Dennett, George William, South Framington.
1871. Drake, Olin M., 70 Huntington Avenue, Boston.
1895. Dunn, Jennie Sophia, 358 Meridian Street, East Boston.
1891. Dwinell, Byron L., Taunton.
1895. Eaton, Samuel Lewis, Newton Highlands.
1895. Edwards, Franklin W., 26 Hamilton Street, Southbridge.
1895. Elliot, Frederick William, 107 Warren Street, Boston.
1895. Emerson, Frederick Lincoln, 118 Hancock Street, Dorchester.
1891. Emerson, Nathaniel Waldo, 601 Boylston Street, Boston.
1895. Emery, Winfred Newell, 749 Main Street, Waltham.
1896. Ferwald, Herbert E., Cahosset.
1879. Flanders, Martha J., Lynn.
1881. Flint, Almena J. Baker, 102 Huntington Avenue, Boston.
1895. Forbes, Charles Holt, 429 School Street, Athol.
1874. Forbes, George F., 42 William Street, Worcester.
1881. Foss, David, Newburyport.
1895. Fryer, Winsor F., 26 Oak Street, Middleboro.
1895. Fuller, Walter Tracy, 738 Dudley Street, Boston.
1895. Gardner, Frank Augustine, 23 North Street, Salem.
1895. Gary, Clara Emerette, 546 Columbus Avenue, Boston.
1895. Gleason, Charles Sherman, Wareham.
1887. Gooding, E. Jeanette, 223 W. Springfield Street, Boston.
1886. Halsey, Frederick W., 272 Newberry Street, Boston.
1869. Hayward, Joseph W., Taunton.
1895. Haywood, George William, 45 Hanover Street, Lynn.
1891. Hill, Lucy Chaloner, 492 N. Main Street, Fall River.
1895. Hill, Noble Hind, 35 Huntington Avenue, Boston.
1895. Hodgdon, Frank A., 45 Pleasant Street, Malden.
1895. Hodgson, Mary C., Stoneham.
1869. Holt, Edward B., Lowell.
1896. Hopkins, William T., 65 Broad Street, Lynn.
1859. Houghton, Henry A., 136 Marlborough Street, Boston.
1888. Houghton, Neidhard H., 544 Columbus Avenue, Boston.
1892. Hunt, Charles R., 262 Union Street, New Bedford.
1884. Hunter, Horatio M., Lowell.
1878. Jackson, William L., 86 Dudley Street, Boston.
1893. Johnson, Charles Frederick, 26 Market Street, Newburyport.
1895. Johnson, Sara, 40 W. Newton Street, Boston.
1895. Klopp, Henry Irwin, Westboro.
1865. Krebs, Francis H., 42 Union Park, Boston.
1895. Latham, Carrie Augusta, 33 Central Street, Leominster.
1891. Leland, Clarence H, 128 Merrimack Street, Lowell.
1858. Lougee, William H., Lawrence.
1895. Mack, Helen Georgiana Flagler, 92 White Street, Boston.

1895. Mann, Martha Elizabeth, 2 Commonwealth Avenue, Boston.
1895. Marsh, Franklin F., 106 Tremont Street, Boston.
1891. Martin, G. Forrest, 17 Kirk Street, Lowell.
1895. May, George Elisha, Institution Avenue and Beacon Street, Newton Centre.
1895. Miller, Edward Roscoe, 15 Merriam Street, Leominster.
1895. Miller, Lizbeth Dora, 12 Cordis Street, Boston.
1892. Moore, J. Herbert, Brookline.
1895. Monroe, John Eugene, Orange.
1895. Morse, Charles W., 101 Essex Street, Salem.
1869. Morse, Martin V. B., Marblehead.
1867. Morse, Nathan R., Salem.
1891. Mosher, Mary E., 53 Blue Hill Avenue, Roxbury.
1892. Murdock, Edward A., 22 Pleasant Street, Spencer.
1895. Newton, Frank Loomis, 147 Highland Ave., Somerville.
1880. Nichols, Charles L., Worcester.
1887. Nordstrom, Cynthia Maria, 47 Washington Street, Malden.
1831. Packard, Horace, 362 Commonwealth Avenue, Boston.
1886. Packer, Henry E., Gardner Centre.
1853. Paine, Joseph P. Hotel Eliot, Roxbury.
1877. Paine, N. Emmons, West Newton.
1891. Palmer, Anna Chipman, 27 Folsom Street, Boston.
1867. Payne, Frederick W., cor. Exeter and Boylston Streets, Boston.
1860. Payne, James H., 344 Commonwealth Avenue, Boston.
1893. Payne, John Howard, Pierce Building, Copley Square, Boston.
1892. Pearson, Mary M., 47 Worcester Street, Boston.
1895. Pease, Ella Gertrude, 601 Boylston Street, Boston.
1887. Percy, Frederick B., Brookline.
1887. Percy, George Emory, Salem.
1895. Perkins, Archie Elmer, South Ashburnham.
1895. Perkins, Charles Edwin, Warren.
1886. Perkins, Wesley B., 45 Pleasant Street, Malden.
1894. Powers, A. Howard, 352 Massachusetts Avenue, Boston.
1881. Rand, Nehemiah W., Monson.
1885. Rand, John Prentice, 49 Pleasant Street, Worcester.
1891. Reed, Clara D., 437 Centre Street, Newton.
1895. Rice, George Brackett, 229 Berkeley Street, Boston.
1895. Richardson, Edward Blake, Chelsea and Corey Streets, Everett.
1886. Richardson, Frank C., 601 Boylston Street, East Boston.
1886. Rollins, Charlotte A., Chelsea.
1896. Sanborn, Emma M. E., 4 Morton Street, Andover.
1890. Sanders, Orren B., 370 Columbus Avenue, Boston.
1859. Sanders, Orren S., 511 Columbus Avenue, Boston.
1890. Sawtelle, Benjamin A., Hollister.
1867. Scales, Edward P., Newton.
1872. Scott, Chester W., Lawrence.
1895. Scott, Cyrus W., 90 Main Street, Andover.
1894. Shaw, John Cook, 23 S. 6th Street, New Bedford.

1895. Shaw, John Joseph, 14 Brewster Street, Plymouth.
1859. SHERMAN, JOHN H., 534 Broadway, Boston.
1879. Sherman, Sarah E., Salem.
1854. SISSON, EDWARD R., New Bedford.
1896. Slocomb, George A., 804 Main Street, Worcester.
1869. SMITH, J. HEBER, 279 Dartmouth Street, Boston.
1894. Smith, Winfield Scott, 601 Boylston Street, Boston.
1888. Southwick, George R., 31 Massachusetts Avenue, Boston.
1869. SPALDING, Henry E., "The Cluny," Boston.
1892. Spalding, Samuel H., Hingham.
1895. Spencer, George Frederick Allen, 40 Church Street, Ware.
1895. Stiles, Charles Wallace, 134 High Street, Newburyport.
1880. Strong, Thomas M., Mass. Hom. Hosp., E. Concord Street, Boston.
1891. Suffa, George A., 229 Berkeley Street, Boston.
1887. Sutherland, John Preston, 295 Commonwealth Avenue, Boston.
1880. Swain, Mary L., 2 Commonwealth Avenue, Boston.
1895. Sylvester, Stephen Alden, Beacon Street, Newton Center.
1888. Talbot, George H., Newtonville.
1853. TALBOT, I. TISDALE, 685 Boylston Street, Boston.
1890. Talbot, Winthrop Tisdale, 685 Boylston Street, Boston.
1875. Taylor, Esther W., 226 Ferry Street, Malden.
1890. Thomas, Charles H., 427 Broadway, Cambridge.
1887. Tobey, Walter Henry, 173 Newbury Street, Boston.
1889. Toby, Carter McV., 36 Columbus Avenue, Boston.
1885. Tompkins, Albert H., 20 Seavern's Avenue, Jamaica Plain, Boston.
1892. Turner, Maurice W., 127 Harvard Street, Brookline.
1889. Van den Borg, Wm. H., Erskine Park, Lenox.
1895. Van der Burgh, David W., 66 Rock Street, Fall River.
1895. Walker, Frank Clifford, 108 High Street, Taunton.
1869. WARE, WILLIAM G., Dedham.
1872. Warren, John K., 68 Pleasant Street, Worcester.
1859. WESSELHOEFT, CONRAD, 291 Boylston Street, Boston.
1867. WESSELHOEFT, WALTER, 391 Harvard Street, Cambridge.
1894. Wesselhoeft, Wm. Fessenden, 851 Boylston Street, Boston.
1859. WESSELHOEFT, WILLIAM P., 176 Commonwealth Avenue, Boston.
1895. White, George Edwin, Sandwich.
1888. Whiting, Walter B., Malden.
1886. Wilkins, G. H., Palmer.
1894. Winn, William John, Massachusetts Avenue and Dana St., Cambridgeport.
1895. Wood, Nelson Mervin, 71 Elm Street, Charleston.
1888. Worcester, George W., Newburyport.
1895. Worcester, John Fonerden, 90 Church Street, Clinton.

Michigan.

1873. Allen, George D., Portland.
1892. Allen, Sara J., Charlotte.
1894. Avery, Aaron B., Pontiac.
1896. Ayres, James N., 534 S. Burdick Street, Kalamazoo.

1896. Babington, John, Corunna.
1893. Bailey, Wm. M., 29 Miami Avenue, Detroit.
1892. Balyeat, Edmund A., 122 W. Main Street, Kalamazoo.
1896. Bartholomew, Daniel D., Holly.
1896. Barton, William R., 216 Washington Street, Ypsilanti.
1893. Brigham, Homer C., 27 Morris Avenue, Grand Rapids.
1893. Brooks, William F., 148 Monroe Street, Lowell.
1896. Caron, George G., 30 Henry Street, Detroit.
1891. Clark, Ernest A., Ann Arbor.
1893. Clark, Whitman E., Three Rivers.
1896. Cole, Saran A., Port Austin.
1892. Copeland, Roy S., 46 Catherine Street, Ann Arbor.
1888. Cornell, Albert B., Kalamazoo.
1891. Covey, Calvin E., Port Huron.
1892. Cowell, Joseph H., Saginaw.
1896. Crum, J. D., 314 N. Ball Street, Owosso.
1894. Crumrine, Charles G., Shirley Block, Detroit.
1888. Defendorf, John J., Ionia.
1889. Dewey, W. A., Ann Arbor.
1896. Fowler, Walter N., Hook Street, Ann Arbor.
1896. Frost, William A., Tecumseh.
1896. Garwood, Vashti D., 40 12th Street, Ann Arbor.
1891. Grant, Albert B., Jackson.
1896. Hendershott, Lizzie A., Irving.
1896. Hinsdale, Wilbert B., Ann Arbor.
1896. Hoag, Frank L., 373 S. College Avenue, Grand Rapids.
1896. Hyde, Rufus J., Eaton Rapids.
1896. Jenkins, Charlie G., Mason.
1883. Johnson, Seymour A., Kalkaska.
1875. Jones, Leonidas M., Brooklyn.
1896. Klein, Emma, 156 St. Aubin Avenue, Detroit.
1887. Knight, Stephen H., 14 W. Willis Avenue, Detroit.
1896. Lards, Charles H., 33 Butler Street, Adrian.
1896. Lenfestey, John A., 27 N. Gratiot Street, Mt. Clemens.
1888. Leseure, Oscar, 406 Cass Avenue, Detroit.
1891. Long, Oscar R., Ionia.
1886. MacLachlan, Daniel A., 6 Adams Avenue, Detroit.
1896. McCausland, H. G., 25 High Street, W. Detroit.
1896. McLaren, William R., 25 Washington Avenue, Detroit.
1875. Miller, Christopher C., 31 Winder Street, Detroit.
1896. Mills, Wesley J., Howell.
1893. Milner, Samuel George, 147 Monroe Street, Grand Rapids.
1890. Mowry, Henry P., Bronson.
1893. Norris, Maria Whittelsey, 21 N. Prospect Street, Grand Rapids.
1889. Nottingham, David M., Lansing.
1888. Nottingham, John C., Bay City.
1882. Obetz, Henry L., 139 1st Street, Detroit.
1884. Olin, Rollin C., 110 Henry Street, W. Detroit.

1893. Orleman, E. Louise, 32 Bagg Street, Detroit.
1896. Pullen, Charles D., Mount Pleasant.
1893. Randall, Albert Francis, Port Huron.
1894. Rich, Frank, Ramsdell Building, Manistee.
1896. Richards, R. Milton, 25 Washington Avenue, Detroit.
1896. Sage, Norman L., 680 21th Street, Detroit.
1895. Saxton, Arthur W., Jackson.
1889. Sherman, Nancy B., Kalamazoo.
1896. Sinclair, Malcolm C., 124 Sheldon Street, Grand Rapids.
1873. Smith, Chester, Portland.
1896. Smith, Cyrenius C., Bedford.
1896. Smith, Dean T., 302 N. Elm Avenue, Jackson.
1889. Smith, Virginia T., 315 Putnam Avenue, Detroit.
1875. Spinney, Andrew B., Reed City.
1892. Spranger, M. J., Detroit.
1896. Sterling, Charles F., 396 Jefferson Avenue, Detroit.
1896. Stevens, Mary T., 6 Adams Avenue, Detroit.
1896. Stevens, R. H., 6 Adams Avenue, Detroit.
1896. Stewart, Francis E., 106 Charlotte Street, Detroit.
1896. Tuthill, Frank S., Concord.
1891. Ullery, Arthur O., Niles.
1876. Van Vleck, Peter H., Sturgis.
1896. Willard, Mary A., 142 West High Street, Detroit.
1888. Wilson, Harold, 32 Adams Avenue, W. Detroit.
1865. Wilson, T. P., 32 Adams Avenue, W. Detroit.

Minnesota.

1888. Aldrich, Henry C., 313 Medical Block, Minneapolis.
1889. Bowman, Frederick C., 203 2d Avenue, W. Duluth.
1889. Briggs, Warren S., St. Paul.
1896. Clark, George E., 203 S. Main Street, Stillwater.
1893. Crawford, Joanna D., 3016 Bloomington Avenue, Minneapolis.
1889. Diessner, Henry Richard, Waconia.
1893. Eaton, Cora E. Smith, Minneapolis.
1893. Fisher, Anna M., Le Seur.
1889. Hall, Levi, 77 Highland Avenue, Minneapolis.
1889. Harnden, George B., Sherburne.
1871. Higbee, Albert E., Masonic Temple, 9th and Robert Streets, Minneapolis.
1871. Higbee, Chester G., St. Paul.
1888. Horning, David W., 608½ Nicollet Avenue, Minneapolis.
1869. Humphrey, Otis M., 100 E. 14th Street, Minneapolis.
1889. Just, August Adolph, Crookston.
1896. Koch, Margaret, Ashmore Flats, Minneapolis.
1896. Leavitt, Henry H., 909 4th Street, S. E., Minneapolis.
1882. Leonard, William E., 608 Nicollet Avenue, Minneapolis.
1890. Lowe, Thomas, Slayton.
1889. Perrigo, E. Stella, Pipestone.
1889. Pillsbury, Charles B., Palladio Building, Duluth.

1895. Rasmussen, Robert Ralph, Minneapolis.
1883. Renninger, John S., Marshall.
1893. Richardson, Oscar K., 303 Masonic Temple, Minneapolis.
1889. Ripley, Martha G., 48 S. 8th Street, Minneapolis.
1881. Roberts, George F., 608 Nicollet Avenue, Minneapolis.
1889. Roberts, Lemuel Martin, Little Falls.
1889. Sawyer, John Emery, 9th and Robert Streets, St. Paul.
1889. Steele, John A., Minneapolis.
1889. Stephens, Aaron M., 431 Fourth Street, Red Wing.
1889. Stone, W. T., St. Cloud.
1888. Thayer, Charles Edward, 610 Nicollet Avenue, Minneapolis.
1889. Wagner, Charles Henry, Faribault.
1889. Walther, Edward, 203 8th Street, St. Paul.
1888. Welch, George Oakes, Fergus Falls.
1881. Wilberton, Lawrence G., Winona.
1889. Wilcox, Catharine, Endicott Arcade, St. Paul.
1876. Williamson, Alonzo P., 502 Nicollet Avenue, Minneapolis.

Missouri.

1893. Badger, Sophia F., 1363 Union Avenue, St. Louis.
1876. Campbell, James A., 1729 Washington Avenue, St. Louis.
1866. Comstock, T. G., 3401 Washington Avenue, St. Louis.
1892. Condon, Eva G., St. Louis.
1893. Cutler, Wm. Pond, 1227 Michigan Avenue, Kansas City.
1893. Dean, George A., 1103 Main Street, Kansas City.
1892. Delap, S. C., 1214 Main Street, Kansas City.
1893. Edgerton, Mark, 1106 Main Street, Kansas City.
1894. Elliott, Charles S., 1103 Main Street, Kansas City.
1896. Elliott, Frank, 1008 Main Street, Kansas City.
1867. Foster, Wm. D., 420 W. 11th Street, Kansas City.
1891. Galloway, Wm. L., 1232 Taylor Avenue, St. Louis.
1893. Gilbert, Wm. S., Edina.
1894. Goodman, Charles H., 3329 Washington Avenue, St. Louis.
1870. Gordon, George A., Chillicothe.
1893. Grundmann, J. Wm., 1000 W. Jefferson Avenue, St. Louis.
1893. Gundelach, Chas. H., 3900 Westminster Place, St. Louis.
1890. Gutherz, Lizzie Gray, 3600 Olive Street, St. Louis.
1885. Hall, Wm. G., 822 Jule Street, St. Joseph.
1882. Harris, W. John, 3107 Morgan Street, St. Louis.
1894. Henry, Samuel Dwyer, Excelsior Springs.
1891. Hickox, Kate Louisa, 616 Felix Street, St. Joseph.
1894. Hudson, Thomas Howard, Kansas City.
1873. Jenney, Wm. H., Broadway and 12th Street, Kansas City.
1878. Kershaw, J. Martine, 3421 Washington Avenue, St. Louis.
1891. Lindley, Havard, 3307 Lucas Avenue, St. Louis.
1894. McElwee, L. Claude, 215 S. Jefferson Avenue, St. Louis.
1894. Mellies, Charles, 3825 N. 20th Street, St. Louis.
1890. Morgan, Willis B., 1200 N. Grande Avenue, St. Louis.

1890. Neumeister, Anton E., 1214 Main Street, Kansas City.
1894. Northup, Emerson S., 414 Garfield Avenue, Kansas City.
1894. Ordway, Leonard S., 5309 Morgan Street, St. Louis.
1885. Parsons, Scott B., 2809 Washington Avenue, St. Louis.
1894. Parsons, Scott E., St. Louis.
1893. Ray, Wm. L., 1214 Main Street, Kansas City.
1876. Richardson, Wm. C., 3913 N. 11th Street, St. Louis.
1875. Runnels, Moses T., 912 Walnut Street, Kansas City.
1889. Thatcher, John Thomas, Oregon.
1889. Westover, H. W., 7th and Edward Streets, St. Joseph.
1896. Wise, Julius C., 14 W. 12th Street, Kansas City.

Montana.

1888. Thompson, Charles S. W., Helena.

Nebraska.

1894. Alexander, Ernest L., 1022 N. 24th Street, Omaha.
1888. Bailey, Benjamin F., Lincoln.
1883. Burroughs, Amelia, 1617 Dodge Street, Omaha.
1894. Clarke, Harvey L., Fairbury.
1893. Colburn, Edgar L., Fremont.
1888. Finney, Everett B., 1229 L Street, Lincoln.
1896. Foote, Dellizon A., 200 Paxton Block, Omaha.
1889. Hanchett, Wm. Henry, 323 S. 15th Street, Omaha.
1886. Hoffman, Jacob Oliver, Orleans.
1892. Hollopeter, Charles M., Beatrice.
1886. Holmes, Horace P., 1708 Douglas Street, Omaha.
1894. Humphrey, William Armine, Plattsmouth.
1889. Macomber, Acastus L., Norfolk.
1894. Miessler, C. F. Otto, Columbus, Platt County.
1894. Neal, George H., Falls City.
1893. Perky, Lenore, 148 S. 12th Street, Lincoln.
1889. Righter, Frederick B., 44 Burr Block, Lincoln.
1893. Sprague, Charles G., 1701 Capitol Avenue, Omaha.
1895. Verges, W. F., 901 Prospect Avenue, Norfolk.
1894. Wells, Angelo P., McCook.
1860. Wood, Orlando S., 15th and Douglas Streets, Omaha.

Nevada.

1893. Wagner, Philippina, Carson City.

New Hampshire.

1895. Dodge, Charles E., 913 Elm Street, Manchester.
1892. Gould, Herbert D., New Boston.
1891. Grant, William H., Ossipee Centre.
1867. Hinds, W. H. W., Milford.
1886. Morrill, Ezekiel, Concord.
1893. Roby, George F., Lakeport.

1886. Rounsevel, C. Sedgwick, 211 Main Street, Nashua.
1891. Smith, George R., Dover.
1895. Tuttle, Walter, Court Street, Exeter.
1891. Wiley, Rebecca W., 160 Main Street, Laconia.
1895. Worcester, Frank D., Keene.
1881. Wrisley, John A., Laconia.

New Jersey.

1896. Ackerman, James F., 905 Grand Avenue, Asbury Park.
1891. Applegate, G. T., 25 Livingston Avenue, New Brunswick.
1891. Artz, Jerome L., Cramer Hill.
1887. Bailey, Alfred W., 1809 Pacific Avenue, Atlantic City.
1891. Banker, Pierre A., 1156 E. Jersey Street, Elizabeth.
1857. Beckwith, Seth R., East Orange.
1890. Best, George B., Englewood.
1844. Boardman, Joseph C., 213 Butler Street, Trenton.
1860. Bradford, F. Standish, 36 Maple Avenue, Morristown.
1891. Branin, John W., Mount Holly.
1893. Bruce, Ida F., Irvington.
1894. Bryan, Joseph Harter, 221 Asbury Avenue, Asbury Park.
1892. Bull, William H. H., Atlantic City.
1891. Burling, J., Summit.
1875. Butler, Clarence W., 35 Fullerton Avenue South, Montclair.
1891. Carr, Ada, Vreeland Avenue, Paterson.
1871. Church, Charles A., 128 Prospect Street, Passaic.
1895. Connett, George Cramer, 45 Washington Street, Morristown.
1891. Cooper, Isaac, Trenton.
1885. Crosby, George W., 716 Atlantic Avenue, Atlantic City.
1893. DeBaun, Edwin, 142 Main Avenue, Passaic.
1869. Dennis, L., 30 Central Avenue, Newark.
1891. Fleming, John R., 1903 Pacific Avenue, Atlantic City.
1892. Fortiner, Ida F., 517 Cooper Street, Camden.
1866. Garside, William B., East Orange.
1895. Geddes, Annie Lowe, Ridgewood Avenue, Glen Ridge.
1881. Griffith, Anna E., 501 N. 4th Street, Camden.
1891. Hall, Harrison B., Riverton.
1892. Harman, George W., 900 Broad Street, Newark.
1888. Heberton, William W., South Orange.
1896. Holmes, Frances W., Bellevue Avenue, Upper Montclair.
1883. Howard, Erving Melville, 401 Linden Street, Camden.
1883. Keator, Bruce S., Asbury Park.
1892. Kinne, Porter S., Paterson.
1869. Kinne, Theodore Y., Paterson.
1890. Lefferts, Franklin P., Belvidere.
1891. Lyon, Malvern S., Absecon.
1892. Mattson, Alfred S., Moorestown.
1881. McClellan, David, 104 Clinton Avenue, West Hoboken.

1869. McGeorge, Wallace, 521 Broadway, Camden.
1891. McKinstry, Frank P., Washington.
1869. Middleton, M. F., 423 Market Street, Camden.
1881. Moffat, Edgar V., 476 Main Street, Orange.
1867. Morgan, John C., Millville.
1891. Munson, Milton L., 1503 Pacific Avenue, Atlantic City.
1891. Myers, Samuel I., Avenue C and W. 33d Street, Bayonne.
1893. Nivison, Anna T, 567 Orange Street, Newark.
1872. Ockford, George M., 3 Oak Street, Ridgewood.
1895. Opdyke, Levings A., 55 Clinton Avenue, Jersey City.
1891. Parker, T. Ellwood, Woodbury.
1891. Richards, George Herbert, Orange.
1880. Rushmore, Edward, Plainfield.
1871. Shivers, Bowman H., Haddonfield.
1891. Shreve, Joseph, Burlington.
1891. Sleght, B. H. B., 31 Lincoln Park, Newark.
1891. Sooy, Walter C., 1913 Pacific Avenue, Atlantic City.
1871. Streets, Jacob G., Bridgeton.
1892. Tuller, John J., 529 Landis Avenue, Vineland.
1881. Uebelacker, Arman E., 109 South Street, Morristown.
1892. Upham, Ella Prentiss, Asbury Park.
1896. Ward William R., Lyons Farms.
1891. Williams, Franklin E., Haddonfield.
1891. Woodward, George D., 211 Broadway, Camden.
1886. Youngman, Maurice D., 1618 Pacific Avenue, Atlantic City.

New York.

1876. Adams, Reuben A., 31 N. Fitzhugh Street, Rochester.
1893. Allan, Arthur Gerrish, 8 West 49th Street, New York.
1891. Allen, Paul, 10 E. 36th Street, New York.
1866. Allen, Timothy F., 10 E. 36th Street, New York.
1869. Arcularius, Philip E., 104 W. 44th Street, New York.
1891. Arschagouni, John, 743 Lexington Avenue, New York.
1894. Austin, Edson C., Norwood.
1894. Ayres, Emma F. Macomber, 60 Caroline Street, Saratoga.
1874. Baethig, Henry, 350 Pennsylvania Street, Buffalo.
1894. Baker, Jennie Van Holland, 512 Bedford Avenue, Brooklyn.
1857. Baldwin, Jared G., 8 E. 41st Street, New York.
1881. Barnett, Amelia, 261 W. 23d Street, New York.
1880. Bassett, John S., 11 W. 31st Street, New York.
1867. Baylies, B. L. B., 418 Putnam Avenue, Brooklyn.
1896. Beaman Charles P., Ithaca.
1877. Beebe, Clarence E., 23 W. 33d Street, New York.
1892. Beldin, Charles K., 7 Clinton Avenue, Jamaica.
1881. Bennett, James A., 4 Irving Place, New York.
1872. Berghaus, Alexander, 138 E. 65th Street, New York.
1893. Besemer, Martin, 6 W. State Street, Ithaca.
1874. Biegler, Joseph A., 58 S. Clinton Street, Rochester.

1895. Birch, Charles E., White Plains.
1881. Birdsall, Stephen T., Glens Falls.
1895. Birdsall, Thomas P., Patterson.
1891. Bishop, William H., 119 E. 47th Street, New York.
1853. Bissel, Arthur F., 157 Maiden Lane.
1893. Bissell, Elmer Jefferson, 75 S. Fitzhugh Street, Rochester.
1869. Blos, J. P., 45 2d Street, Troy.
1865. Boericke, Francis E., Hammondsport.
1874. Bond, Mary E., 122 Lexington Avenue, New York.
1891. Boocock, Robert, 965 Flatbush Avenue, Brooklyn.
1874. Boynton, Frank H., 36 W. 50th Street, New York.
1867. Brown, Edward V., North Tarrytown.
1891. Brown, M. Belle, 135 W. 34th Street, New York.
1894. Bryant, Wm. Cullen, 64 Green Avenue, Brooklyn.
1873. Butler, W. M., 507 Clinton Avenue, Brooklyn.
1886. Candee, J. Willis, 402 Warren Street, Syracuse.
1890. Capron, C. Gray, 236 Genesee Street, Utica.
1896. Carleton, Bukk G., 75 West 50th Street, New York.
1891. Chapin, Edward, 21 Schermerhorn Street, Brooklyn.
1896. Church, Eloise I., 41 West 94th Street, New York.
1886. Clark, Byron G., 162 W. 122d Street, New York.
1887. Clark, Lyman A., Cambridge.
1869. Coburn, Edward S., 91 4th Street, Troy.
1883. Cole, Directus De Forest, Albion.
1896. Collins, Newton M., 43 East Avenue, Rochester.
1894. Conklin, Frances C. Donovan, New Brighton.
1881. Cook, Joseph T., 636 Delaware Avenue, Buffalo.
1874. Coon, Henry C., Alfred Centre.
1894. Cort, Lottie A., 89 Division Avenue, Brooklyn.
1877. Couch, Asa S., Fredonia.
1876. Couch, Lewis B., Nyack.
1894. Cox, Edward Gilbert, 109 State Street, Albany.
1894. Cox, Frederick Joseph, 109 State Street, Albany.
1895. Cox, George A., 80 S. Swan Street, Albany.
1895. Crump, Walter Gray, Flower Hospital, New York.
1887. Dake, Addie B. Crowley, 117 E. Jefferson Street, Syracuse.
1879. Danforth, L. L., 35 W. 51st Street, New York.
1878. Davis, John E. L., 4 E. 63d Street, New York.
1892. Dawson, John G., Matteawan.
1887. Deady, Charles, 110 W. 48th Street, New York.
1891. Dearborn, Henry M., 146 W. 57th Street, New York.
1881. Demarest, John H., 59 W. 126th Street, New York.
1875. Deschere, Martin, 334 W. 58th Street, New York.
1893. Dillingham, Thomas Manley, 8 W. 49th Street, New York.
1883. Dillow, George Morris, "The Rutland," 57th St. and Broadway, New York.
1872. Doughty, Francis E., 512 Madison Avenue, New York.
1895. Dowe, Frank LeC., S. Boulevard and Briggs Avenue, New York.
1887. Dowling, John W., 8 W. 45th Street, New York.

1895. Dreyer, Frank Helmuth, Webster Avenue, New York.
1895. Dunlevy, Rita, 328 W. 57th Street, New York.
1877. Eaton, J. Albro, 498 Hancock Street, Brooklyn.
1869. ELLIOTT, JOSEPH B., 493 Clinton Avenue, Brooklyn.
1867. ERMENTRAUT, JOHN P., 261 E. 4th Street, New York.
1874. Evans, Albert J., Fredonia.
1887. Faust, Louis, Schenectady.
1894. Fay, Russell P., 165 Warburton Street, Yonkers.
1838. FINCH, EDWIN W., Centre Avenue and Prospect Street, New Rochelle.
1855. FINCKE, BERNHARDT, 122 Livingston Street, Brooklyn.
1895. Fiske, Edwin Rodney, 484 Bedford Avenue, Brooklyn.
1867. FISKE, WM. M. L., 484 Bedford Avenue, Brooklyn.
1895. Flagg, Robert N., 118 S. Broadway, Yonkers.
1892. Garrison, John B., 111 E. 70th Street, New York.
1879. Gifford, Willis B., Attica.
1869. GIFFORD, GILBERT L., Hamilton.
1883. Gorham, George E., 160 Hamilton Street, Albany.
1871. GREENLEAF, JOHN T., Owego.
1895. Griggs, Elma, 9 E. Seneca Street, Ithaca.
1848. GUERNSEY, EGBERT, 180 W. 59th Street, New York.
1874. Guernsey, W. N., 27 W. 52d Street, New York.
1894. Hall, Matthew J., Mamaroneck.
1889. Hallock, J. Henry, 414 S. Salina Street, Syracuse.
1846. HALLOCK, LEWIS, 34 E. 39th Street, New York.
1895. Hartman, W. Louis, Clyde.
1875. Hasbrouck, Everett, 369 9th Street, Brooklyn.
1892. Hathaway, Henry S., 146 W. 92d Street, New York.
1895. Hawley, Hercules R., Staatsburg.
1853. HELMUTH, WM. TOD, 504 Fifth Avenue, New York.
1887. Helmuth, Wm. Tod, Jr., 465 Lexington Avenue, New York.
1895. Hodge, Wm. H., 265 3d Street, Niagara Falls.
1887. Holmes, Henry P., Lansingburg.
1888. Hough, Walter D., Niagara Falls.
1867. HOUGHTON, HENRY C., 7 W. 39th Street, New York.
1881. Howe, J. Morgan, 58 W. 47th Street, New York.
1874. Hunt, Dwight B., 159 Madison Avenue, New York.
1888. Hurd, S. Wright, 73 Main Street, Lockport.
1872. Hutchins, H. S., Batavia.
1895. Hyde, Louis D., Owego.
1867. JAYNE, DE WITT C., Florida.
1896. Johnston, Charles L., 467 Vanderbilt Avenue, Brooklyn.
1874. Jones, Charles E., Albany.
1867. JONES, HENRY C., 220 S. 1st Avenue, Mount Vernon.
1888. Keegan, W. A., 52 S. Clinton Street, Rochester.
1889. Keeler, E. Elmer, 423 E. Jefferson Street, Syracuse.
1888. Keeney, J. Harvey, 9 W. Bridge Street, Oswego.
1874. Keep, Caroline J. Yeomans, 308 W. 86th Street, New York.
1867. KEEP, J. LESTER, 460 Clinton Avenue, Brooklyn.

1895. Keith, Horace G., 2 Hudson Street, Yonkers.
1858. KELLOGG, EDWIN M., 19 E. 38th Street, New York.
1891. King, William Harvey, 64 W. 51st Street, New York.
1887. Kinne, Arthur B., Syracuse.
1887. Kinne, E. Olin, Syracuse.
1894. Laidlaw, George Frederick, 137 W. 41st Street, New York.
1887. Laird, F. F., Utica.
1874. Laird, William T., Watertown.
1889. Leal, Malcolm, 107 W. 48th Street, New York.
1888. Lee, John Mallory, 89 Plymouth Avenue, Rochester.
1886. Le Seur, John Wesley, Batavia.
1877. Lewis, F. Park, 188 Franklin Street, Buffalo.
1871. LEWIS, HENRY M., 10 S. Portland Avenue, Brooklyn.
1895. Lines, Mary Louise, 344 Washington Avenue, Brooklyn.
1895. Lowry, Charles, 69 West 48th Street, New York.
1895. MacBride, Nathaniel Louis, 138 W. 43d Street, New York.
1891. MacMaster, Marian A., 605 Warren Street, Syracuse.
1892. MacCallum, John H., 135 Broadway, Rochester.
1895. Maeder, John G., 304 E. 120th Street, New York.
1874. McDonald, William O., 117 W. 44th Street, New York.
1886. McDowell, Charles, 116 W. 13th Street, New York.
1891. McDowell, George W., 136 W. 130th Street, New York.
1894. McKown, William James, 335 Hamilton Street, Albany.
1891. McMichael, Arkell R., 969 Madison Avenue, New York.
1848. MARCY, ERASTUS E., 396 5th Avenue, New York.
1891. Martin, Lynn A., 91 Collier Street, Binghamton.
1892. Martin, Truman J., 245 North Street, Buffalo.
1887. Maycock, Burt J., 262 Delaware Avenue, Buffalo.
1887. Milbank, William E., 111 State Street, Albany.
1883. Miller, John, 48 St. John's Place, Buffalo.
1888. Minton, Henry Brewster, 165 Joralemon Street, Brooklyn.
1871. MITCHELL, JOHN J., Newburg.
1881. Moffat, John L., 17 Schermerhorn Street, Brooklyn.
1876. Monmonier, Julius L., 480 Classon Avenue, Brooklyn.
1891. Montgomery, Richard W., 386 Manhattan Avenue, New York.
1869. MOSSMAN, NATHAN A., 28 E. 47th Street, New York.
1892. Nead, William M., 205 State Street, Albany.
1895. Neilson, Howard Stout, 257 E. 48th Street, New York.
1876. Nichols, George, 306 Monroe Street, Brooklyn.
1886. Nickelson, W. H., A. D. Ripley Block, Adams.
1889. Norton, Arthur B., 16 W. 45th Street, New York.
1881. Nott, Frederick J., 554 Madison Avenue, New York.
1889. O'Connor, Joseph T., 18 W. 43d Street, New York.
1883. Ormes, Francis D., Jamestown.
1876. Ostrom, Homer I., 42 W. 48th Street, New York.
1892. Palmer, A. Worrall, 138 W. 81st Street, New York.
1848. PALMER, MILES W., 235 E. 18th Street, New York.

1881. Pardee, Ensign B., 218 W. 34th Street, New York.
1873. Patchen, George H., 11 E. 59th Street, New York.
1892. Paul, William Kendall, Belmont.
1867. Pearsall, S. J., Saratoga Springs.
1895. Pease, Charles G., 101 W. 72d Street, New York.
1890. Phillips, R. Oliver, 257 Warburton Avenue, Yonkers.
1891. Pierce, Willard I., 64 W. 126th Street, New York.
1887. Pope, Willis G., Keeseville.
1887. Porter, Eugene H., 181 W. 73d Street, New York.
1894. Powel, Milton, 163 W. 76th Street, New York.
1859. Pratt, Lester M., Homer.
1887. Putnam, William B., 35 Wilder Avenue, Hoosick Falls.
1881. Rankin, Egbert G., 180 W. 59th Street, New York.
1891. Reynolds, Warren U., 354 Manhattan Avenue cor. 115th Street, New York.
1890. Richardson, Andrew J., 39 E. 83d Street, New York.
1872. Richardson, B. M., 151 Milton Street, Brooklyn.
1891. Richardson, George W., 138 E. 79th Street, New York.
1891. Ricker, Marcena S., 58 Lannir Street, Rochester.
1892. Roberts, D. J., New Rochelle.
1892. Roberts, George W., 1672 Broadway, New York.
1891. Robinson, Franklin E., Carthage.
1866. Robinson, S. A., West New Brighton.
1892. Russell, H. Everett, 30 E. 74th Street, New York.
1894. Schenck, Herbert Dana, 241 McDonough Street, Brooklyn.
1875. Schley, James Montfort, 1 E. 42d Street, New York.
1891. Schumann, Carl, Delhi.
1886. Scott, William H., 104 W. 44th Street, New York.
1894. Seward, John Perry, 113 W. 85th Street, New York.
1870. Sheldon, J. W., 402 Warren Street, Syracuse.
1886. Shelton, George G., 521 Madison Avenue, New York.
1895. Shepard, George Andrew, 1672 Broadway, New York.
1891. Shepard, Jessie, 21 Irving Place, Buffalo.
1894. Sherman, Irving Prescott, 114 W. 44th Street, New York.
1881. Simmons, Daniel, 97 Lee Avenue, Brooklyn.
1889. Skinner, Scott W., Le Roy.
1883. Slaught, James E., Warsaw.
1895. Smith, Frederick R., 400 E. Main Street, Rochester.
1860. Smith, Henry M., 288 St. Nicholas Avenue, New York.
1892. Smith, Hugh M., 78 Orange Street, Brooklyn.
1886. Smith, Sarah N., 74 W. 35th Street, New York.
1869. Smith, St. Clair, 25 W. 50th Street, New York.
1860. Smith, T. Franklin, 264 Lenox Avenue, New York.
1887. Snyder, Edward E., Binghamton.
1871. Southwick, Augustus B., 155 W. Dominick Street, Rome.
1895. Spalding, Julia H., 39 N. Main Street, Cortland.
1887. Spoor, David E., 170 Lafayette Street, Schenectady.
1887. Stearns, Melvin J., Massena.
1892. Stevens, David D., 170 W. 54th Street, New York.

1895. Storer, John Hudson, 30 Edgecombe Avenue, New York.
1888. Strunk, Edward P., Brewster.
1883. Stumpf, Daniel B., 631 Ellicott Street, Buffalo.
1881. Sumner, Charles R., Rochester.
1887. Swett, Emily F., Medina.
1874. Talcott, Selden H., Middletown.
1890. Talmage, Alonzo L., 19 Sherman Avenue, Glen's Falls.
1872. Talmage, John F., 157 Joralemon Street, Brooklyn.
1892. Teets, Charles E., 37 W. 39th Street, New York.
1875. Terry, Marshall O., 196 Genesee Street, Utica.
1867. THOMPSON, JOHN H., 36 E. 30th Street, New York.
1867. THOMPSON, VIRGIL, 32 W. 19th Street, New York.
1891. Townsend, Irving, 67 W. 46th Street, New York.
1888. Trotter, Richard R., 189 Warburton Avenue, Yonkers.
1891. Tuttle, Edward G., 61 W. 51st Street, New York.
1881. Tytler, George E., 113 W. 126th Street, New York.
1887. Van Denberg, M. W., Fort Edward.
1895. Van Loon, Arthur Burton, 50 Eagle Street, Albany.
1896. Vehslage, Samuel H., 117 W. 43d Street, New York.
1891. Ver Nooy, Charles, 148 W. 64th Street, New York.
1895. Von der Lühe, Amelia D. F., 801 Driggs Avenue, Brooklyn.
1874. Wait, Phœbe J. B., 9th Avenue and 34th Street, New York.
1886. Walker, Catharine, 180 Richmond Avenue, Buffalo.
1891. Walrad, Caleb B., 21 N. Perry Street, Johnstown.
1854. WATSON, WILLIAM H., 270 Genesee Street, Utica.
1892. Wellington, James F., 64 E. 2d Street, Corning.
1858. WEST, EDWIN, 155 W. 12th Street, New York.
1866. WETMORE, JOHN McE., 41 E. 29th Street, New York.
1867. WHITE, J. RALSEY, 41 S. Clinton Street, Rochester.
1860. WHITE, THEODORE C., 21 S. Clinton Street, Rochester.
1883. Wilcox, De Witt G., 508 Delaware Avenue, Buffalo.
1886. Wilcox, Sydney F., 51 W. 52d Street, New York.
1855. WILDER, LOUIS DE V., 55 W. 33d Street, New York.
1893. Williams, Frank Fay, 6 Goodrich Street, Canton.
1892. Willis, Harrison, 695 Lafayette Avenue, Brooklyn.
1892. Winchell, Walter B., 137 Berkeley Place, Brooklyn.
1885. Winterburn, George William, 375 Manhattan Avenue, New York.
1886. Wolcott, Edwin H., 57 S. Union Street, Rochester.
1869. WOODWARD, A. M., 128 W. 13th Street, New York.
1869. WRIGHT, A. R., 414 Elmwood Avenue, Buffalo.
1890. Wright, Preston W., 201 W. 80th Street, New York.

North Dakota.

1891. De Puy, Richard G., Jamestown.
1887. Hobart, W. R., Grand Forks.
1889. Rutledge, Samuel W., Grand Forks.
1889. Vidal, James W., Fargo.

Ohio.

1894. Ames, Charles S., Ada.
1896. Baldinger, Arthur F., 670 Euclid Avenue, Cleveland.
1892. Baldwin, Henry D., Elyria.
1894. Barnhill, Tobias G., 208 S. Main Street, Findlay.
1868. Baxter, Harris H., 271 Prospect Street, Cleveland.
1865. Beckwith, D. H., 528 Prospect Street, Cleveland.
1876. Beebe, Henry E., Sidney.
1868. Biggar, H. F., Cleveland.
1891. Bittinger, Frank D., 23 W. 4th Street, Dayton.
1896. Bowman, Isaac N., Upper Sandusky.
1882. Bradley, Benjamin A., 214 Wallace Avenue, Avondale, Cincinnati.
1891. Brickley, Laura C., Harrison.
1869. Buck, J. D., 124 W. 7th Street, Cincinnati.
1891. Canfield, Martha A., 24 Streator Street, Cleveland.
1892. Carpenter, Willard B., 657 N. High Street, Columbus.
1890. Chapman, Edward E. K., Defiance.
1882. Church, T. T., 90 E. Main Street, Salem.
1887. Claypool, Albert, Toledo.
1874. Crank, C. D., 106 Auburn Avenue, Cincinnati.
1893. Crismore J. M., Helena.
1896. Dixey, Mabel G., 401 Chrogan Street, Tremont.
1893. Fackler, Joshua M., Plymouth.
1882. Fahnestock, Joseph C., Piqua.
1890. Gann, John A., Wooster.
1881. Geiser, S. R., 1511 Baymiller Street, Cincinnati.
1891. Geohegan, William A., 918 Hawthorne Avenue, Price's Hill, Cincinnati.
1893. Gillard, David, Port Clinton.
1890. Gillard, Edwin, 423 Columbus Avenue, Sandusky.
1892. Goodman, Julia, 401 Ross Street, Hamilton.
1879. Hartshorn, D. W., 102 Garfield Place, Cincinnati.
1893. Hastings, William C., 11 S. Washington Street, Van Wert.
1887. Hershberger, Joseph P., Lancaster.
1875. House, Robert B., Springfield.
1883. Hoyt, Charles, Chillicothe.
1896. Hunt, John S., Athens.
1886. Hunt, Maurice P., "The Ruggery," Columbus.
1887. Jewitt, Edward H., 484 Arcade, Cleveland.
1870. Johnson, R. B., Ravenna.
1873. Jones, Gaius J., 5 Rockwell Street, Cleveland.
1881. Jump, Julia C., 86 N. Main Street, Oberlin.
1892. Kirk, Ellen Maria, 169 W. 7th Street, Cincinnati.
1886. Kraft, Frank, 57 Bell Avenue, Cleveland.
1895. Lehman, Franklin Frees, Kingsbury Block, Sandusky.
1896. Lunger, Justus S., E. Water Street, Prospect.
1891. Martin, Thomas C., 791 Prospect Street, Cleveland.
1892. Maxwell, Lewis K., 2208 Monroe Street, Toledo.
1894. McClure, John R., 98 E. 2d Street, Portsmouth.

1896. McCormick, A. L., 3110 Woodburn Avenue, Cincinnati.
1873. McDermott, George C., Odd Fellows' Temple, Cincinnati.
1895. Meade, Stephen Johnson D., 41 Everett Street, Cincinnati.
1895. Meader, Lee Douglass, 28 W. 7th Street, Cincinnati.
1891. Means, J. W., Troy.
1893. Meredith, W. G., 1905 Euclid Avenue, Cleveland.
1890. Morley, F. W., Washington Row, Sandusky.
1878. Morrill, Edwin C., Norwalk.
1894. Morrison, Frank A., 6 S. Main Street, Rock Creek.
1892. Munns, Charles O., Oxford.
1865. OWENS, WILLIAM, cor. 7th and John Streets, Cincinnati.
1892. Palmer, Owen A., Warren.
1879. Parsons, Katherine, 914 Prospect Street, Cleveland.
1891. Pauly, C. A., Odd Fellows' Temple, Cincinnati.
1885. Pomeroy, Harlan, 526 Prospect Street, Cleveland.
1896. Probert, Clarence G., Huron.
1891. Quay, George H., 122 Euclid Avenue, East Cleveland.
1883. Reddish, A. W., Sidney.
1885. Reed, Thomas E., Middletown.
1894. Rees, Owen, Toledo.
1892. Richmond, Hiram W., 106 Euclid Avenue, Cleveland.
1882. Rosenberger, Abraham S., Covington.
1865. RUSH, R. B., 70 E. Main Street, Salem.
1890. Rust, Edwin G., 29 Euclid Avenue, Cleveland.
1860. SANDERS, JOHN C., 608 Prospect Street, Cleveland.
1884. Sanders, J. Kent, 166 Euclid Avenue, Cleveland.
1893. Sawyer, Charles E., Marion.
1893. Schoonover, William Edward, St. Mary's.
1892. Schulze, Carl A., 49 E. Main Street, Columbus.
1882. Sherwood, H. A., Warren.
1896. Sigrist, Christopher W., 53 S. 4th Street, Columbus.
1896. Sigrist, Philip H., E. High Street, New Philadelphia.
1896. Smith, Dudley, 526 Prospect Street, Cleveland.
1894. Snow, Henry, Norwood.
1892. Steddom, Charles, Monroe.
1892. Stephens, James A., 1350 Euclid Avenue, Cleveland.
1888. Stewart, Thomas M., 266 Elm Street, Cincinnati.
1879. Stone, Martha M., 104 Prospect Street, Cleveland.
1896. Turner, Estelle, 616 W. 8th Street, Cincinnati.
1870. VAN NORMAN, H. B, 289 Pearl Street, Cleveland.
1872. Walter, Ziba D., Marietta.
1874. Walton, Charles E., N. W. cor. 7th and John Streets, Cincinnati.
1893. Watts, William, 339 Huron Street, Toledo.
1865. WEBSTER, W., 127 S. Ludlow Street, Dayton.
1896. Wiggers, Henry H., 529 Everett Street, Cincinnati.
1895. Wilder, Guert Elmore, Masonic Temple, Sandusky.
1886. Wood, James C., 47 Windsor Avenue, Cleveland.
1870. WORTHINGTON, AMOS F., 4th and Race Streets, Cincinnati.

Oregon.

1886. Jefferds, Henry Clarke, 67 Dakom Building, Portland.
1891. Macrum, Charles A., Marquam Block, Portland.
1889. Miller, Byron E., "The Dekum," Portland.
1876. Nichols, Ammi S., Portland.

Pennsylvania.

1871. ALLEN, RICHARD C., 4519 Frankford Avenue, Philadelphia.
1892. Baier, George F., Norwood.
1886. Bartlett, Clarence, 1506 Arch Street, Philadelphia.
1891. Bayley, Weston D., 1434 Poplar Street, Philadelphia.
1846. BERENS, JOSEPH, 1500 Green Street, Philadelphia.
1870. BETTS, B. FRANK, 1609 Girard Avenue, Philadelphia.
1887. Bier, Peter A., 4200 Butler Street, Pittsburg.
1876. Bigler, William H., 1524 Arch Street, Philadelphia.
1871. BINGAMAN, C. F., 922 Penn Avenue, Pittsburg.
1894. Blair, William Wightman, 406 Penn Avenue, Pittsburg.
1895. Boericke, Felix A., 1011 Arch Street, Philadelphia.
1892. Boileau, John D., 804 Lehigh Avenue, Philadelphia.
1871. BOWIE, ALONZO P., 87 Main Street, Uniontown.
1869. BOWMAN, BENJAMIN, Chambersburg.
1891. Boyd, J. S., New Brighton.
1870. BOYER, FRANCIS W., Pottsville.
1869. BRADFORD, THOMAS L., 1862 Frankford Avenue, Philadelphia.
1891. Branson, Mary, 1719 Arch Street, Philadelphia.
1896. Brewster, Frederick D., 330 Washington Avenue, Scranton.
1891. Brown, Christian H., 1824 Diamond Street, Philadelphia.
1892. Brown, William K., 1311 N. Broad Street, Philadelphia.
1891. Buck, Michael J., 1222 12th Avenue, Altoona.
1887. Bullard, J. Arthur, Wilkesbarre.
1854. BURGHER, JOHN C., 960 Penn Avenue, Pittsburg.
1891. Carmichael, Thomas H., 5530 Main Street, Germantown, Philadelphia.
1895. Champlin, Henry William, 111 Main Street, Towanda.
1875. Chapman, Millie J., 804 Penn Avenue, Pittsburg.
1894. Chase, Theodore Livingstone, 1687 N. 54th Street, Philadelphia.
1888. Closson, James H., 53 W. Chelten Avenue, Germantown, Philadelphia.
1892. Cooke, Mary A., 2113 N. 18th Street, Philadelphia.
1891. Coolidge, John W., Scranton.
1866. COOPER, J. F., 105 Arch Street, Allegheny City.
1894. Cooper, William Henry, Oakmont.
1874. Corbin, John L., 245 Main Street, Athens.
1878. Cranch, Edward, Erie.
1892. Crawford, Katherine M., 131 N. Main Street, Chambersburg.
1891. Crowther, Isaac, Chester.
1895. Culin, William D., 4028 Parrish Street, Philadelphia.
1892. Curran, Edwin J., Oil City.
1846. DAKE, B. F., 815 Penn Avenue, Pittsburg.
1881. Dean, Edward W., 52 9th Street, Pittsburg.

1858. Detwiller, John J., Easton.
1878. Dinsmore, Samuel W. S., Sharpsburg.
1869. Dudley, Pemberton, 1405 N. 16th Street, Philadelphia.
1892. Dudley, Perry Hall, 1405 N. 16th Street, Philadelphia.
1884. Du Four, William M., Williamsport.
1871. Edmundson, Walter F., 375 5th Avenue, Pittsburg.
1891. Everhart, Oliver T., Hanover.
1871. Fager, Charles B., 120 Walnut Street, Harrisburg.
1874. Fulton, Henry W., 5919 Penn Avenue, Pittsburg.
1894. Furman, Horace S., 1705 Tioga Street, Philadelphia.
1891. Gilbert, Irwin B., 2027 Columbia Avenue, Philadelphia.
1891. Godshall, Samuel G., Edge Hill.
1891. Goff, Ella D., 41 N. Diamond Street, Allegheny.
1887. Goodno, William C., 1733 Chestnut Street, Philadelphia.
1869. Gramm, Gustavus E., Ardmore.
1896. Gramm, Theodore J., 846 N. Broad Street, Philadelphia.
1891. Griffith, Lewis B., 2526 Ridge Avenue, Philadelphia.
1891. Griffith, Silas, 1431 Girard Avenue, Philadelphia.
1891. Griffith, William M., 2035 Ridge Avenue, Philadelphia.
1875. Guernsey, Joseph C., 1923 Chestnut Street, Philadelphia.
1867. Gumpert, B. B., 840 Franklin Street, Philadelphia.
1847. Guy, Samuel S., 2131 Gratz Avenue, Philadelphia.
1895. Haines, Oliver Sloan, 137 N. 15th Street, Philadelphia.
1892. Hall, P. Sharpless, 1604 Arch Street, Philadelphia.
1893. Hancock, Joseph, 1639 Columbia Avenue, Philadelphia.
1891. Harrington, Edwin S., 1444 S. Broad Street, Philadelphia.
1892. Hassler, J. Wyllis, 729 N. 17th Street, Philadelphia.
1892. Hassler, M. Margaret, 105 N. 8th Street, Allentown.
1881. Hassler, William A., 105 N. 8th Street, Allentown.
1887. Heilner, Herbert Franklin, Scranton.
1892. Heritage, Alfred C., Jenkintown.
1874. Herron, Charles D., 3505 Butler Street, Pittsburg.
1880. Hofmann, Charles H., 510 S. Highland Avenue, Pittsburg.
1888. Holcombe, J. Randolph, 1327 Girard Avenue, Philadelphia.
1883. Horner, J. Richey, 79 Arch Street, Allegheny.
1891. Hubbard, C. H., 8th and Madison Streets, Chester.
1887. Ivins, Horace F., 1621 Chestnut Street, Philadelphia.
1893. Irwin, Thomas A., 1234 Liberty Street, Franklin.
1859. James, Bushrod W., cor. Green and 18th Streets, Philadelphia.
1866. James, John E., 1521 Arch Street, Philadelphia.
1860. Johnson, Isaac D., Kennett Square.
1886. Johnson, Theodore M., 200 Susquehanna Avenue, Pittston.
1892. Jones, John J., 1802 Mount Vernon Street, Philadelphia.
1858. Jones, Joseph E., West Chester.
1893. Karsner, Charles W., 1409 S. 15th Street, Philadelphia.
1891. Kistler, Abraham L., 115 N. 9th Street, Allentown.
1871. Knerr, Calvin B., 1137 Spruce Street, Philadelphia.
1875. Korndœrfer, Augustus, 1728 Green Street, Philadelphia.

1892. Krewson, Amos D., 4613 Paul Street, Frankford, Philadelphia.
1895. Lawrence, F. Mortimer, 2840 Ridge Avenue, Philadelphia.
1891. Layman, Alfred, 1630 N. 18th Street, Philadelphia.
1891. Lentz, Levi R., Fleetwood.
1896. McCauley, John C., 185 Connecticut Street, Rochester.
1879. McClelland, John B., 409 Penn Avenue, Pittsburg.
1867. McClelland, J. H., 5th and Wilkins Avenue, Pittsburg.
1884. McClelland, Robert Watson, 5th and Wilkins Avenue, Pittsburg.
1881. McClure, Eliza Lang, 1919 Wallace Street, Philadelphia.
1891. Macfarlan, Duncan, 3924 Chestnut Street, Philadelphia.
1868. Macfarlan, Malcolm, 1805 Chestnut Street, Philadelphia.
1891. Maddux, Daniel P., 700 Madison Street, Chester.
1891. Malin, William H., Chestnut Hill, Philadelphia.
1894. Mansfield, Harry Knox, 19 W. Chelten Avenue, Germantown, Philadelphia.
1881. Mansfield, Job R., 4852 Main Street, Germantown, Philadelphia.
1892. Marshall, Anna M., 1928 Chestnut Street, Philadelphia.
1890. Marshall, Robert S., cor. Penn and Highland Aves, East Liberty, Pittsburg.
1871. Martin, Constantine H., Allentown.
1878. Martin, W. J., 1712 Carson Street, S. S., Pittsburg.
1894. Maurer, Joseph M., 59 W. Wheeling Street, Washington.
1891. Mercer, Edward W., 157 N. 15th Street, Philadelphia.
1871. Mercer, Robert P., 223 W. Third Street, Chester.
1871. Middleton, Caleb S., 1523 Girard Avenue, Philadelphia.
1891. Middleton, Willis H., 1704 Girard Avenue, Philadelphia.
1888. Miller, Zachary T., 2013 Carson Street, Pittsburg.
1875. Mitchell, John N., 113 S. 16th St., Philadelphia.
1876. Mohr, Charles, 1823 Green Street, Philadelphia.
1896. Moon, Seymour B., 1314 8th Avenue, Beaver Falls.
1896. Mueller, Gustave A., 400 Penn Avenue, Pittsburg.
1895. Myers, Charles E., 170 Green Lane, Manayunk, Philadelphia.
1887. Norton, Claude R., 700 N. 40th St., Philadelphia.
1891. Nowell, John F., Greencastle.
1883. Parsons, Anson, Springboro.
1888. Parsons, Edgar C., Meadville.
1884. Perkins, Charles W., 403 Broad Street, Chester.
1896. Perrine, J. K. M., 413 Penn Avenue, Pittsburg.
1872. Pettengill, Eliza F., 300 N. 10th Street, Philadelphia.
1880. Pitcairn, Hugh, 206 W. State Street, Harrisburg.
1895. Pollock, Martha Hays, 232 N. 2d Street, Harrisburg.
1894. Posey, Louis Plumer, 1435 Walnut Street, Philadelphia.
1888. Powell, William C., Bryn Mawr.
1891. Pratt, Trimble, Media.
1893. Pursell, James Perry, Easton.
1865. Rankin, John S., cor. Roup and Howe Avenues, Pittsburg.
1881. Reading, J. Herbert, 1811 Green Street, Philadelphia.
1888. Reading, Thomas, Hatboro.
1888. Reeves, Joseph M., 1609 Mount Vernon Street, Philadelphia.
1883. Ridge, Jonathan T., 1617 N. 7th Street, Philadelphia.

1891. Roberts, Charles W., 638 Washington Avenue, Scranton.
1884. Robson, John W., North Highland Avenue, Pittsburg.
1893. Rotzell, Willett Enos, Narberth.
1871. SARTAIN, HARRIET J., 212 W. Logan Square, Philadelphia.
1892. Schmucker, F. R., 228 N. 5th Street, Reading.
1881. Schreiner, Emma T., 123 W. Chelten Avenue, Phladelphia.
1891. Schwenck, Clayton S., 1319 Jefferson Street, Philadelphia.
1891. Seibert, William A., Easton.
1869. SEIP, C. P., 636 Penn Avenue, Pittsburg.
1895. Seitz, William Clinton, Glen Rock.
1893. Sellew, Sylvester Wolcott, 114 Centre Street, Oil City.
1895. Sharpless, Edward S., 1329 N. 12th Street, Philadelphia.
1893. Shellenberger, Charles Nell, 1831 Wallace Street, Philadelphia.
1888. Simmons, Silas S., Susquehanna.
1881. Simon, Samuel H., P. O. Box 79, Harrisburg.
1876. Slough, Frank J., Allentown.
1888. Slough, William C. J., Emaus.
1894. Smedley, Charles Davis, Wayne.
1892. Smith, J. N., Wellsboro.
1891. Snader, Edward R., 140 N. 20th Street. Philadelphia.
1893. Spahr, Charles E., 110 W. Market Street, York.
1891. Spencer, William, 1523 Girard Avenue, Philadelphia.
1890. Starr, Pearl, Bellevue.
1893. Stem, Henry L., Union City.
1887. Swalm, Thomas W., Pottsville.
1879. Swartz, J. Ross, Harrisburg.
1875. Thomas, Charles M., 1623 Arch Street, Philadelphia.
1887. Thompson, James Henry, 515 Penn Avenue, Pittsburg.
1887. Thompson, Landreth W., S. E. cor. 18th and Mt. Vernon Sts., Philadelphia.
1891. Tomlinson, William H., 5210 Germantown Avenue, Philadelphia.
1889. Van Baun, William W., 1402 Spruce Street, Philadelphia.
1891. Van Deusen, Edwin H., 2004 Tioga Street, Philadelphia.
1894. Van Lennep, Gustave Adolphe, 1421 Spruce Street, Philadelphia.
1886. Van Lennep, William B., 1421 Spruce Street, Philadelphia.
1891. Vischer, Carl V., 1429 Poplar Street, Philadelphia.
1895. Wait, Oliver B., 1230 S. 57th Street, Philadelphia.
1893. Walter, Robert, Walter's Park.
1891. Ward John McE., 1915 Susquehanna Avenue, Philadelphia.
1892. Wareheim. Edward A., Glen Rock.
1894. Waylan, Julia Gould, 1832 Tioga Street, Philadelphia.
1882. Weaver, Chandler, Fox Chase P. O., Philadelphia.
1893. Webster, Samuel C., 25 E. Front Street, Media.
1887. White, Roland T., 53 Jackson Street, Allegheny.
1867. WILLARD, L. H., 236 Western Avenue, Allegheny.
1872. Williamson, Matthew S., 1522 Arch Street, Philadelphia.
1891. Yocum. Charles A., Pottstown.
1881. Yoder, Daniel, Catasauqua.

Rhode Island.

1895. Allison, George Freeman, Warren Avenue, East Providence.
1891. Barnard, Charles A., Centerdale.
1876. Brown, Asa W., 624 Broad Street, Providence.
1892. Brown, Lucy H. A., 274 Broad Street, Providence.
1868. BUDLONG, JOHN C., Providence.
1895. Carleton, Francis Boyd, Providence.
1895. Chace, Nathaniel Ray, 89 Touro Street, Newport.
1895. Crocker, Harry Clinton, 154 Orms Street, Providence.
1890. Gooding, Gertrude, Bristol.
1885. Gottschalck, William von, Central Falls.
1881. Green, Charles L., 16 Jackson Street, Providence.
1874. Hall, Robert, Cranston Street, Providence.
1895. Hasbrouck, Cornelius J., Hope Street, Bristol.
1887. Hasbrouck, Sayer, Providence.
1895. Hunt, Annie W., 217 Washington Street, Providence.
1894. Jenks, Frank R., 332 Main Street, Pawtucket.
1895. Kingsbury, Edward N., 93 Blackstone Street, Woonsocket.
1896. Lance, John D., Broadway, Providence.
1895. Lippitt, Louis Davis, 24 Dyer Avenue, Olneyville.
1881. Mathews, Mary D. Moss, 23 Broadway, Providence.
1895. Pagan, Frank C., Westerly.
1879. Peck, George B., 865 N. Main Street, Providence.
1885. Reed, Robert G., Woonsocket.
1895. Sanger, Henry Mortimer, 1040 Westminster Street, Providence.
1867. SAWIN, ISAAC W., 582 Broadway, Providence.
1895. Squire, Abiram F., 38 Catharine Street, Newport.
1895. Stanton, Nathaniel Green, 9 Kay Street, Newport.
1887. Stone, Waldo H., 133 Orms Street, Providence.
1895. Thurber, Emily M., 518 Broad Street, Providence.
1885. Walker, P. F., 282 Cranston Street, Providence.
1888. Whitmarsh, Henry A., Jackson Street, Providence.
1895. Wood, Lorin Francis, 37 Elm Street, Westerly.

South Dakota.

1888. Fowler, De Witt C., Aberdeen.
1893. Fulford, George Howard, 233 Philips Avenue, South Sioux Falls.
1893. Jennings, Rudolphus, Hot Springs.

Tennessee.

1893. Crosthwait, Scott W., 214 Hardee Street, Nashville.
1877. Dake, Walter M., 218 N. Vine Street, Nashville.
1872. Dake, William C., 218 N. Vine Street, Nashville.
1896. McMillan, Frances, Jackson Building, Nashville.
1874. Plimpton, Clara C., Nashville.
1876. Price, Emmor H, 400 Georgia Avenue, Chattanooga.
1891. Tydeman, W. W., Knoxville.
1894. Wilson, Charles Gaston, 203 Main Street, Clarksville.

Texas.

1893. Blackman, George Edwin, Vernon.
1893. Bliem, Milton J., 313 E. Houston Street, San Antonio.
1886. Jones, Joseph, San Antonio.
1893. Leach, Reginald Barkley, 117 S. Main Street, Paris.
1876. Mercer, William M., Galveston.
1894. Pollock, Joseph Robert, Fort Worth.
1896. Smith, Mark H., Peavland.
1895. Stiles, Hunter Bell, Grand Avenue, Gainesville.
1873. Warren, H. Anna, 817 Bond Street, Dennison.

Utah.

1893. Hanchett, James C., Salt Lake City.
1893. White, John T., 29 S. State Street, Salt Lake City.

Vermont.

1895. Colvin, Harvey E., 150 Cherry Street, Burlington.
1886. Gale, Charles A., Rutland.
1893. Kirkland, Edward, Bellow's Falls.
1888. Minard, Will Frank, Waterbury.
1895. Parker, Edwin Kenney, West Cornwall.
1887. Smith, Melvin D., Middlebury.
1859. Sparhawk, George E. E., Burlington.
1881. Wyman, Edmond L., Manchester Centre.

Virginia.

1853. Skiles, Francis W., Suffolk.
1881. Webster, Frank P., 136 Freemason Street, Norfolk.
1891. Young, Charles B., 1102 Church Street, Lynchburg.

Washington.

1870. Bagley, H. B., Seattle.
1893. Olmsted, Elmer D., Spokane.
1892. Simons, Nancy J. A., Vancouver.
1892. Young, E. Weldon, 1106 James Street, Seattle.

West Virginia.

1892. Day, George F., Martinsburgh.
1892. Fawcett, John M., 1116 Market Street, Wheeling.
1884. Morris, John W., Wheeling.
1846. Rhees, Morgan J., Wheeling.
1896. Wells, George S., Sisterville.

Wisconsin.

1870. Beebe, E. W., 173 Wisconsin Street, Milwaukee.
1890. Brown, Dagmar M., Waupaca.
1893. Brown, Eugene A., 121 E. Washington Avenue, Madison.
1889. Carlson, Oscar W., 425 Milwaukee Street, Milwaukee.
1891. Churchill, Ann Ervilla, Monroe.
1893. Clement, Webster John, Berlin.

1890. Cole, Beder A., West Lima.
1892. Davis, John J., Racine.
1892. Dell, Lillian A., Kenosha.
1895. Forsbeck, Filip A., 425 Milwaukee Street, Milwaukee.
1890. Gillespie, Thomas, Kenosha.
1889. Gorton, Fred. T., Portage.
1889. Hassell, Samuel E., Lancaster.
1890. Johnson, Solomon D., 403 Grand Avenue, Milwaukee.
1890. Kaetel, Charles H., Maysville.
1876. Kanouse, Abijah W., Appleton.
1890. Kanouse, Edward M., Wausau.
1890. Leland, A. G., Whitewater.
1889. Lewis, Joseph, Jr., 330 Hanover Street, Milwaukee.
1892. MacDonald, John A., Elkhorn.
1892. MacDonald, William H., Lake Geneva.
1889. Noble, James H., Eau Claire.
1890. Olmstead, Austin Frederick, Green Bay.
1890. Paine, Richard K., Manitowoc.
1870. Pennoyer, N. A., Kenosha.
1890. Perkins, Ernest D., Ashland.
1894. Pillsbury, Cassius C., Superior.
1893. Ripley, George H., Kenosha.
1893. Roberts, Alfonso Adelbert, Baraboo.
1890. Russell, Henry A., West Superior.
1894. Schmitz, Elsie R., Milton.
1875. Sherman, Lewis, 171 Wisconsin Street, Milwaukee.
1890. Stiles, Fred. P., Sparta.
1890. Sutherland, Quincy O., Janesville.
1890. Suttle, Henry J., Viroqua.
1890. Treat, Charles R., Jr., Sharon.
1890. Washington, Lucy L., Baraboo.
1893. White, Arthur Eugene, Racine.

Unknown.

1894. Alexander, Eva Blanche.
1894. Alexander, J. Lloyd.
1893. Bailey, Alfred G.
1894. Cameron, Watts.
1891. Crandall, Willis A.
1875. Everett, Ambrose S.
1893. Robinson, Edward Hartley.
1894. Rowe, Alice Eliza.
1892. Telson, Mary K.
1886. Towner, Harry L.

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Alaska,	1	Missouri,	40
Arizona,	1	Montana,	1
Arkansas,	9	Nebraska,	21
Australia,	1	Nevada,	1
California,	46	New Hampshire,	12
Canada,	5	New Jersey,	64
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China,	1	North Dakota,	4
Colorado,	31	Ohio,	95
Connecticut,	35	Oregon,	4
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Florida,	4	South Dakota,	3
Georgia,	9	Tennessee,	8
Illinois,	172	Texas,	9
Indiana,	26	Utah,	2
Iowa,	39	Vermont,	8
Kansas,	22	Virginia,	3
Kentucky,	19	Washington,	4
Louisiana,	2	West Virginia,	5
Maine,	19	Wisconsin,	38
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